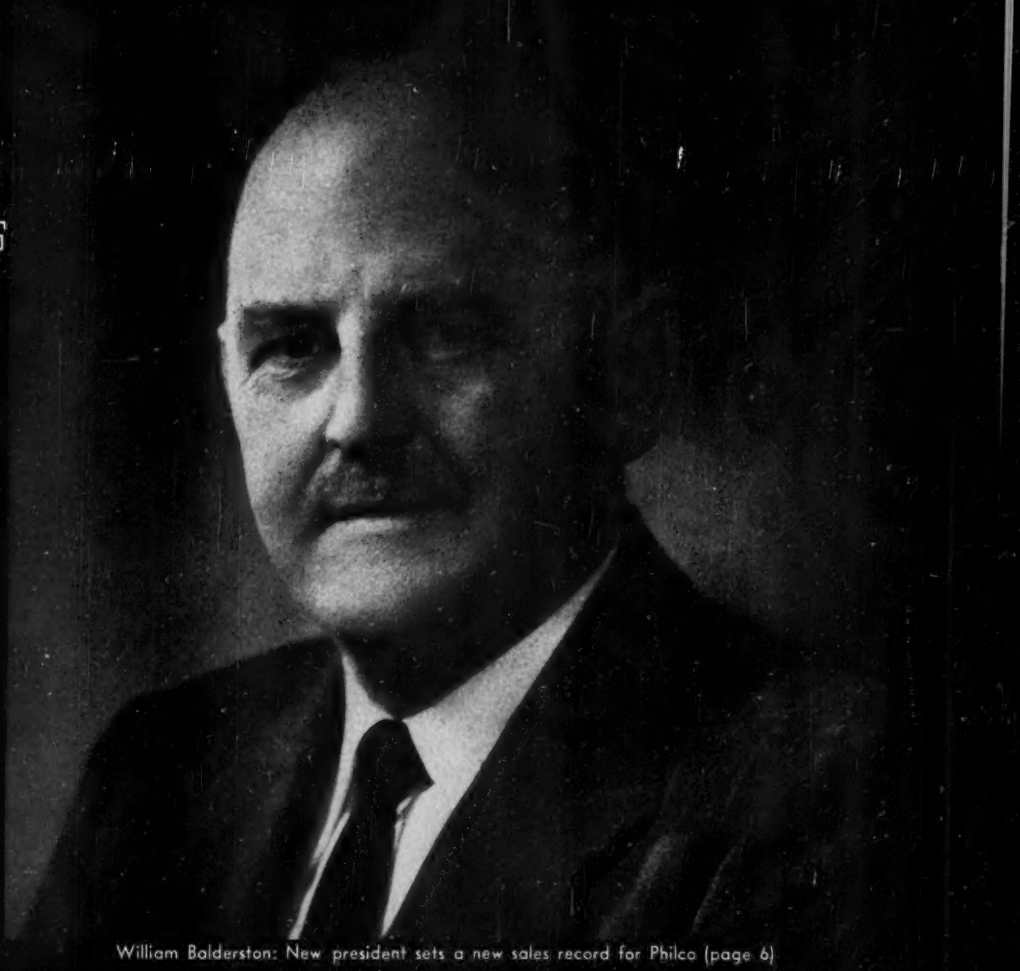
BUSINESS WEEK

APR. 9, 1949



William Balderston: New president sets a new sales record for Philco (page 6)

A McGRAW HILL PUBLICATION

TWENTY-FIVE CENTS

★

We can't legislate happiness

WE RUN THE RISK in this country of substituting law for conscience; of feeling that passing a law makes something so. Laws are easy, work is hard. But only work, *hard* work, ever got anybody anything worth having.

—You can't legislate equality; people have to deserve it and earn it. Then, if they do earn it, the law can protect them in it. But the first obligation is theirs; equality must first be earned.

—You can't legislate full employment. If business is restricted and hampered, it will be able to hire fewer and fewer people. Soon there simply *will not be* enough tax money coming in to maintain the rest of the nation on WPA or anything else. It is very much to *everyone's* benefit to keep private industry so prosperous it will need to employ the maximum number of people.

—You can't have high wages just by passing a law—wages have to be earned by production great enough to pay them, or else there soon will be *no* wages. A bankrupt corporation pays no wages, a closed factory provides no jobs.

—You can't "share the wealth," because wealth is production. Therefore, to increase prosperity you have to increase production so there will be more to share—and that can come only by hard work, not by laws.

Actually, you see, government can't do anything for you—you have to do it for yourself. That's the way any self-respecting American would want it, anyway. Government can't do anything basic for you because government *has* nothing except what the working taxpayer gives it, and government *is* nothing except the will of the people. Government can't do anything for you that you can't do for yourself because government *is* yourself.

Hose blows out fire

A typical example of B. F. Goodrich product improvement

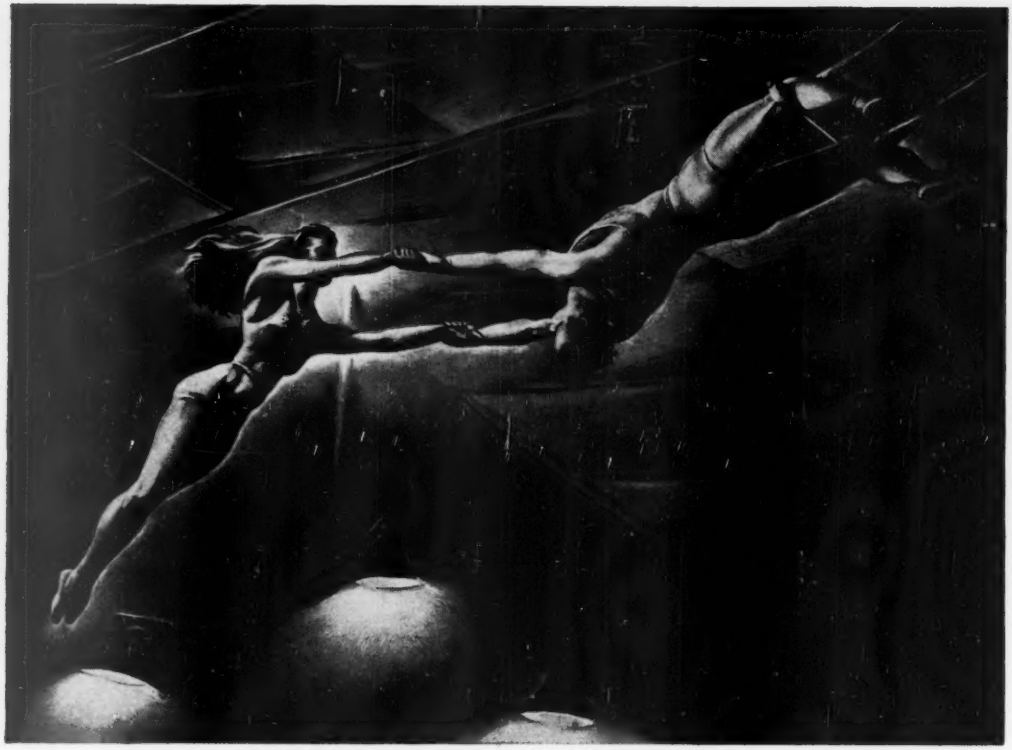
SOME of the pipes in an oil refinery are called "hot lines" because they carry explosive liquids or gases at 500 to 1000 degrees—much hotter than an ordinary oven. If there's a leak, the gas often bursts into flame. In some refineries there are six or eight fires a day. Ordinary fire-fighting equipment would put out the fires but they immediately started again. Engineers found that steam would first "blow out" the flames and then keep them out until the leaks could be repaired.

But the steam was under such pressure that hose often burst just when it was needed most. B. F. Goodrich engineers had already designed a long-lived steam hose, but they set out to make it better.

Former steam hose failed because its cotton fabric charred with heat, its rubber lining became brittle. B. F. Goodrich engineers substituted woven asbestos for the cotton, developed a new heat-resisting rubber lining that stays flexible and strong many times as long as old compounds. Then for good measure the engineers added stout wire braids. The result: the first truly *Burstproof* hose ever built.

Tests of this new B. F. Goodrich hose showed that even under constant heat and pressure it lasts two or more times as long as other types, and that steam or steam pressure positively will not rupture the hose wall. Refineries will be safer from fire, all users of steam hose will benefit, because B. F. Goodrich research continues to improve even those products which most people say are already good enough. *The B. F. Goodrich Company, Industrial and General Products Division, Akron, O.*

B.F.Goodrich
BURSTPROOF STEAM HOSE



Grip means everything under the top

That's true under the "big top"—and just as true under the glass-smooth top of a modern kitchen range. The big difference is that the circus act stakes everything on twenty fingers that can slip, while millions of can't-slip metal fingers safeguard the life of range, washing machine tub or refrigerator finish.

These millions of microscopic fingers are developed in the process of fusing porcelain enamel to ARMCO Enameling Iron under tremendous heat. They hold the hard, glossy finish in a lifetime bond.

Perfecting this special metal base for fine porcelain enameling was another achievement of ARMCO Research. This iron has long been the most widely used sheet metal for hundreds of porcelain enameled products. Enamelers prefer ARMCO Enameling Iron, not only because it cuts rejects and gives them more uniformly excellent products, but because it is so well known to the public and creates ready sales acceptance.

Enameling iron is only one of the many extra-quality grades developed by Armco to help manufacturers make increasingly better and more salable products. When buyers see the famous ARMCO triangle on equipment or products, they know the steel has been carefully chosen to give them longer service and greater value.
Armco Steel Corporation, Middletown, Ohio.
Export: The Armco International Corporation.

ARMCO STEEL CORPORATION

THE FAMILIAR ARMCO TRIANGLE IDENTIFIES SPECIAL-PURPOSE STEELS THAT HELP MANUFACTURERS MAKE MORE ATTRACTIVE, MORE USEFUL, LONGER-LASTING PRODUCTS

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ARCHIE, THE CRIMINAL OCTOPUS!

(A SORT OF A PARABLE, KIND OF) by Mr. Friendly

With one hand Archie forged a check,
Another robbed the till,
Another grabbed the Boss's neck,
Another stole a bill.

The poor Boss cried, "Oh goodness me!"
And questioned Archie's honesty!

Then Mr. Friendly happened by and said,
"Perhaps you ought to try American Mutual's
Comprehensive Crime Policy which
gives you complete protection against dishonest
employees and octopi, robbery, burglary, theft
and forgery . . . at a savings that's never
been less than 20% on crime insurance."

The Boss signed up and now he's free
From worries over larceny.
Even a criminal octopus
Won't make him fret . . . or make him fuss!

AMERICAN MUTUAL

. . . the first American liability insurance company

A M

$700,000,000 in crime losses! That was the estimate for '47 . . . and today it's on the increase. Why not protect yourself against all crime losses with American Mutual's Special Comprehensive Crime Policy.* Write for your free copy of "Modernizing Your Crime Loss Insurance Protection." American Mutual Liability Insurance Co., Dept. B-59, 142 Berkeley St., Boston 16, Mass. Branch offices in principal cities. Consult classified telephone directory.

**In New York, Louisiana and Texas coverage is limited to the standard Comprehensive Dishonesty, Disappearance and Destruction Policy.*

THE DEPARTMENTS

THE COVER

William Balderston, the new president of Philco Corp., got into electronics by a round-about route. His one idea after graduating from high school in his native Boise, Idaho, back in 1913, was to earn enough money to get an engineering degree at the University of Wisconsin. So he went to work for two years with the U.S. Reclamation Service in Wyoming.

• **Delay**—The gangling, 6-ft., 2-in. Balderston finally made it, pulling into Madison, Wis., on a sheep train with $900 in his pocket. A spell as lieutenant in the field artillery during World War I delayed his college career. But he managed to get back to Wisconsin to receive his diploma with the class of '19.

Balderston was headed for a career with the government irrigation service when he married Susan Bowen Ramsey, whose father operated the Ray-O-Vac Co. plant in Madison. Government work went by the boards: Balderston spent the next decade with Ray-O-Vac, rising to vice-president of the battery company.

• **Transitone**—Balderston got out of the battery business when plug-in sets finished off batteries as a power source for home radios. The next step took him to Long Island where he negotiated an interest in Transitone Co., a pioneer auto-radio company.

When Philco bought the company in 1930, Balderston got the assignment of organizing an auto-radio division.

• **War Work**—Balderston's salesmanship helped Philco get its wartime contracts. He undertook a tough deadline on airborne-radar equipment. Philco made good by delivering the first unit to Wright Field in a boxcar specially fitted out as a laboratory for last-minute adjustments. Balderston became vice-president in charge of war work in 1941, president of the company in 1948.

The Philco head lives in Meadowbrook, on the outskirts of Philadelphia, where he indulges his hobbies of gardening and photography.

—Complete story on Philco Corp. starts on page 48. *Cover photography © Fabian Bachrach.*

"So your INVENTORY COSTS are too high . . .

. . . Here's how WE got out from under! . . .

"THE PROBLEM OF EXCESS STOCKS was giving us plenty of headaches. No wonder! In dollars, our inventories had swelled to 245% over our best pre-war year... yet our sales had increased scarcely half that much during the same time.

"DRASTIC ACTION NEEDED! But... when we cut back our buying commitments we soon found our stocks running dangerously low on many popular items. Puzzle: How to maintain *balanced* stocks . . . not too much, not too little of each item.

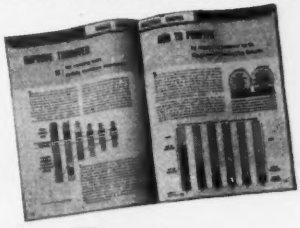
"ONLY SOLUTION—A NEW SYSTEM. 3 "Musts" were apparent (1) The system would have to simplify our inventory data (2) Warn us unfailingly of threatened understocks or overstocks (3) Assure proper ratios among stock items.

"WHY WE CHOSE KARDEX VISIBLE. After seeing all kinds of systems in use in companies similar to ours, we decided unanimously on Kardex Visible. It not only gives us our 3 "musts" but requires a lot less clerical effort. And the changeover was easy—Remington Rand installation experts handled the whole job."

Send for this Free Book Today:

"HOW TO GET PROFITS FROM INVENTORIES"

Learn the newest, proved-in-use, simplified methods of controlling inventories . . . your own stores of raw materials, parts or supplies, as well as finished goods for resale. Phone our nearest office or write Systems Division, Room 1111, 315 Fourth Ave., New York 10, N. Y. for your free copy of Book No. KD 375.



Remington Rand

THE **FIRST** NAME IN BUSINESS SYSTEMS

40,000 Rubs

In our Institute of Plumbing Research, there's a special machine designed to test the life of the enamel we use on bathtubs, sinks, and other enameled cast iron products.

The samples of enamel we test on this machine are subjected to conditions our products will have to meet in actual use. They are rinsed with hot water and cold water, coated with soaps and cleansers—and rubbed 40,000 times.

40,000 rubs! That's a lot of rubs on anybody's bathtub or sink. It's roughly equivalent to withstanding a good cleansing—every day—for more than 30 years!

This service test is just one of many tests our enamel undergoes. But it's typical of the extra care taken by American-Standard all along the line to make sure you get the best value for your money in heating equipment and plumbing fixtures. And such care helps to explain why American-Standard is "First in Heating . . . First in Plumbing."

American Radiator & Standard Sanitary Corp.
General Offices: Pittsburgh, Pennsylvania

AMERICAN-Standard
First in heating . . . first in plumbing

AMERICAN-Standard
HEATING · PLUMBING

Look for this Mark of Merit

Serving home and industry: **AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON**

BUSINESS OUTLOOK

Business activity will hinge, in the next several months, on how well these major factors hold up:

Steel operations; auto sales; demand for nonferrous metals; construction activity; business spending (on both plant and inventories).

A couple—such as autos and building—might go up and cushion a decline in some of the others.

Steel and autos have been sustaining Business Week's Index for two months or more (BW-Apr.2'49,p24).

But if all, or most, go down at the same time, look out!

•

New figures on business spending (page 26) are reassuring.

Business is going ahead with its expansion plans. Totals won't be so big as a year ago, but they still are huge.

Manufacturing shows a considerable tapering off in expansion. But the dollar figures don't tell the whole story.

Less money is going into building, more into equipment. That is very important.

Buying equipment sustains all heavy industry. Past experience indicates that when heavy industry is busy, we all are busy.

•

Inventory policy in 1949 will be very different from 1947 and 1948.

Industry struggled for a long time to bring raw materials supplies up to manufacturing needs.

Inventories expanded steadily, and often rapidly, from early 1946 right through this February.

But supply overtook demand last winter, in the aggregate. Then sales slacked off a little for a few hard-goods manufacturers. Their inventories, instead of being just right, became too large.

They stopped buying. Prices began to slide. Then other industries held off buying, looking for still lower prices. And prices slid further.

As industry began to use up the stuff it had on hand, inventory accumulation was transformed into inventory contraction.

•

Added up, business spending on new facilities and on inventories this year is likely to be substantially smaller than last. The effect will be to slow down the activities of industries serving these demands.

•

Lower inventory levels already are having an effect on bank loans.

Here, both quantity and price enter in. A manufacturer or merchant finds that he needs fewer units of a certain thing to meet sales. He reduces the quantity in stock. At the same time, suppliers cut prices to stimulate demand. Cost goes down along with the amount on hand.

Generally speaking, this boosts working capital. Not only does the company not have to borrow more; it may also be able to pay off old loans.

•

Changed business borrowing habits show up clearly in the loan figures.

A year ago, with prices rising and everyone boosting inventories, loans had a seasonal decline from December to March of only $250-million.

This year, with the trend reversed, loans have dropped $650-million.

•

Car and truck output in the first 1949 quarter was at an annual rate of

just over 5.6-million units a year. If sustained, that would break all past records.

Yet it doesn't mean the market is being flooded. There is no evidence that buyers wouldn't take 6-million or more units this year.

It is quite true that prices are being cut and that some models aren't moving as briskly as manufacturers might like (page 20). Nevertheless, the public has not yet been offered all the lower-priced cars it wants.

•

Demand for iron and steel may possibly be past the peak. There is no evidence of a sizable drop in demand any time soon, however.

The greatest change so far is that customers no longer are falling all over themselves trying to get steel.

There is, however, lower demand for pig iron. Because of this, one blast furnace—all relined and ready to go—was not relighted this week.

•

Steel customers are beginning to suggest rather pointedly to mill representatives that a general price cut is in order.

They have one big argument on their side. That is the drop in cost of steel-making scrap. The Iron Age composite is down another $5 a ton; at $26.17, it is nearly $17 a ton below the January top.

The argument for lower prices would be stronger, however, if mills knew the answers to three or four questions:

How much will our wages go up? How much will John L. Lewis get, and what will that add onto coal costs? How much more will freight rates rise? What will happen to basing points and f.o.b. pricing in Congress?

•

Steel mills, instead of cutting prices, would like to go after old customers. The logical way would be to offer them concessions to offset part of the freight cost added by f.o.b. pricing.

You'll hear more of this unless Congress restores basing points.

•

Nonferrous metals may get worse before they get better—but it was hard, this week, to see how markets could get very much worse.

Lead now has been cut from 21½¢ a lb. to 16¢; another cut in zinc this week brought it down to 15¢ from the high of 17½¢.

Copper still is offered a shade under the base price of 23½¢ a lb.

But did any of these things stimulate demand? Quite the opposite.

•

Construction remains a question mark in figuring business prospects.

Value of work put in place last month was a shade above February and also March of last year. The total, at $1.2-billion, is very high.

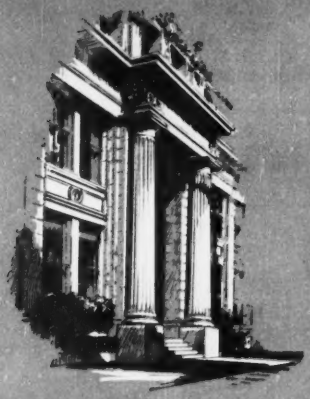
However, the important residential segment wasn't so impressive. Value of work put in place was $400-million. That's the smallest (except for frosty February, 1948) in the last 21 months.

Industrial construction, too, was below the previous month and March a year ago. However, lower building costs may help turn this trend up.

•

Don't lose sight of one big construction factor:

Public works will go a long way to cushion drops elsewhere. Total public construction in March was 49% higher than a year ago. Schools and roads are big factors.

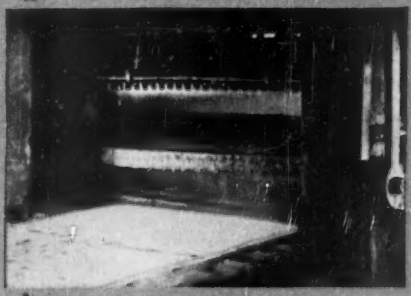


Portal TO PRODUCTION

NO FACTORY GATE is this, yet it offers access to one of America's most effective producing aggregations in the all-important steel industry.

BARIUM STEEL CORPORATION home offices at 25 Broad Street in New York City are a clearing house of information on day-to-day schedules in all the subsidiary plants. With an inventory of what can be done, when and where, the executives of Barium Steel Corporation are prepared to answer quickly and accurately any inquiry for service.

A.



B.

C.

D.

A. Open hearth and electric furnace steel melting.

B. Rolling steel plate.

C. A steel barge ready for delivery to the customer.

D. Whirley crane and barge construction at Wiley Manufacturing Company, Port Deposit, Maryland.

Barium

SUBSIDIARIES

MELT • ROLL • CAST • MACHINE
FORGE • STAMP and FABRICATE

STEEL

BARIUM STEEL & FORGE, INC.
Canton, Ohio

BAYONNE BOLT CORP.
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CENTRAL IRON AND STEEL CO.
Harrisburg, Pa.

CLYDE IRON WORKS, INC.
Duluth, Minn.

THE CUYAHOGA SPRING CO.
Cleveland, Ohio

THE DETROIT STEEL CASTING CO.
Detroit, Mich.

ERIE BOLT & NUT COMPANY
Erie, Pa.

FARMUNITS, INC.
Detroit, Mich.

THE GEOMETRIC STAMPING CO.
Cleveland, Ohio

GLOBE FORGE, INC.
Syracuse, N. Y.

KERMATH MANUFACTURING CO.
Detroit, Mich.

KERMATH (CANADA) LTD.
Toronto, Ontario, Canada

PERMA-LOCK CORP.
Cleveland, Ohio

PORCELAIN STEELS CORP.
Cleveland, Ohio

SHEFFIELD IRON & STEEL CO.
Sheffield, Ala.

WILEY MANUFACTURING CO.
Mountville, Pa.

WILEY MANUFACTURING COMPANY, Port Deposit, Md.

BARIUM STEEL CORPORATION

TWENTY-FIVE BROAD STREET • NEW YORK CITY

Before choosing any printing paper . . .

Look at Levelcoat*

Illustrated here is a typical use of Levelcoat, not an actual booklet.

Look at Levelcoat... for brightness

You'll see the kind of surface that brings out color printing in brilliant, flashing beauty . . . makes lines of type sharp, clear, distinct. For the "brightness" quality is skillfully blended-in throughout every step in the manufacture of Levelcoat paper . . . concluding with Kimberly-Clark's special "lustre-coating" process.

Look at Levelcoat... for smoothness

Compare its swan-smooth surface with the paper you are now using. Test Levelcoat on your delicate printing jobs. Discover how this smoother texture can improve the quality of your printing. And remember that Levelcoat is precision-coated with the finest of "face-powder" clays to give such perfect performance.

Look at Levelcoat... for printability

Vitally important to performance on the press is the quality of pick-resistance . . . in which Levelcoat excels. Yet this is but one of many features which help prevent expensive stoppages. That's why Levelcoat is such a favorite — for trouble-free performance means lower cost to advertisers, better returns for printers.

IT PAYS TO LOOK AT LEVELCOAT

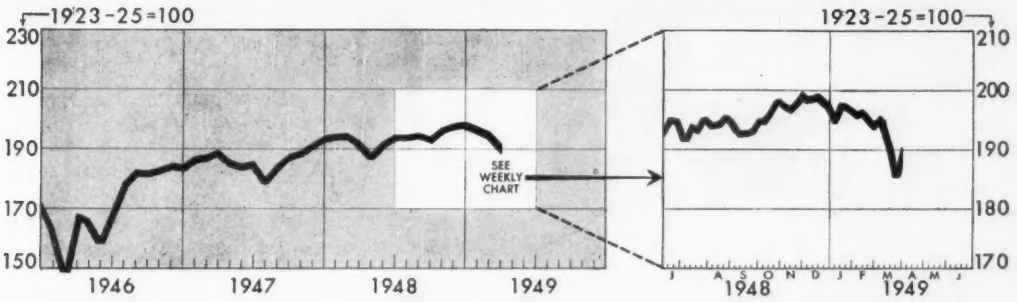
Levelcoat* PRINTING PAPERS

Levelcoat printing papers are made in these grades: Trufect, Multifect*, and Rotofect*.*

KIMBERLY-CLARK CORPORATION, NEENAH, WISCONSIN

*T. M. REG. U. S. PAT. OFF.

FIGURES OF THE WEEK



	§ Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Business Week Index (above)	*190.6	†186.9	195.6	184.8	162.2
PRODUCTION					
Steel ingot operations (% of capacity)	98.8	99.8	101.4	83.2	97.3
Production of automobiles and trucks	117,759	†121,341	118,267	105,132	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$25,776	$26,040	$22,842	$22,534	$19,433
Electric power output (million kilowatt-hours)	5,378	5,404	5,552	5,037	3,130
Crude oil (daily average, 1,000 bbls.)	5,072	5,130	5,187	5,389	3,842
Bituminous coal (daily average, 1,000 tons)	395	†493	1,812	362	1,685
TRADE					
Miscellaneous and L.C.L. carloadings (daily average, 1,000 cars)	74	74	73	83	86
All other carloadings (daily average, 1,000 cars)	26	27	43	27	52
Money in circulation (millions)	$27,403	$27,423	$27,557	$27,780	$9,613
Department store sales (change from same week of preceding year)	−16%	−16%	−7%	+17%	+17%
Business failures (Dun & Bradstreet, number)	216	166	185	91	228
PRICES (Average for the week)					
Cost of Living (U. S. Bureau of Labor Statistics, 1935-39 = 100), February 169.0	....	....	170.9	167.5	105.2
Spot commodity index (Moody's, Dec. 31, 1931=100)	362.7	368.8	376.0	412.4	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939=100)	247.5	254.9	265.9	270.5	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939=100)	290.1	291.3	298.3	366.7	146.6
Finished steel composite (Steel, ton)	$96.68	$97.23	$97.77	$81.14	$56.73
Scrap steel composite (Iron Age, ton)	$26.17	$31.17	$36.25	$40.25	$19.48
Copper (electrolytic, Connecticut Valley, lb.)	22.950¢	23.450¢	23.500¢	21.500¢	12.022¢
Wheat (Kansas City, bu.)	$2.25	$2.23	$2.27	$2.44	$0.99
Sugar (raw, delivered New York, lb.)	5.59¢	5.69¢	5.74¢	5.40¢	3.38¢
Cotton (middling, ten designated markets, lb.)	32.73¢	32.66¢	32.70¢	35.93¢	13.94¢
Wool tops (New York, lb.)	$1.476	$1.533	$1.601	$1.794	$1.281
Rubber (ribbed smoked sheets, New York, lb.)	18.80¢	19.00¢	18.93¢	22.20¢	22.16¢
FINANCE					
90 stocks, price index (Standard & Poor's Corp.)	118.9	119.3	117.5	120.5	78.0
Medium grade corporate bond yield (30 Baa issues, Moody's)	3.46%	3.46%	3.47%	3.50%	4.33%
High grade corporate bond yield (30 Aaa issues, Moody's)	2.70%	2.70%	2.71%	2.79%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average)	1½–1¾%	1½–1¾%	1½–1¾%	1½%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	1½–1¾%	1½–1¾%	1½–1¾%	1¾%	½–¾%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	44,909	45,473	46,112	45,340	††27,777
Total loans and investments, reporting member banks	61,171	61,749	61,976	62,221	††32,309
Commercial and agricultural loans, reporting member banks	14,904	14,962	15,147	14,417	††6,963
Securities loans, reporting member banks	2,186	1,926	1,577	1,666	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks	31,750	32,680	33,069	34,433	††15,999
Other securities held, reporting member banks	4,387	4,373	4,290	4,335	††4,303
Excess reserves, all member banks	430	730	750	655	5,290
Total federal reserve credit outstanding	22,378	22,512	22,422	21,607	2,265

*Preliminary, week ended April 2nd.

†Revised.

††Estimate (BW—Jul.12'47,p16)

§Date for "Latest Week" on each series on request.

1. Happy Hal, the Hermit, figured he was sitting pretty, and then he won a contest and a trip to New York City. "What's this I see?" the hermit cried, arriving in his rattler. "The Hotel Pennsylvania has become the HOTEL STATLER!

2. "On my last visit, years ago," the Happy Hermit cried, "it was a Statler-run hotel—they *own* it now, beside. Perhaps I will give up my cave, a hermit's life at best is lonely . . . and I know that here I really *am* a guest!"

3. He spent a night in Statler's room, and slept on Statler's bed. "Why that's the best night's sleep I've had in many years," he said. "For those eight hundred springs and more, I'll give a quiet cheer, and if I keep on hermit-ing . . . I'll be a hermit *here!*"

4. The hermit ate a Statler meal, and goodness, *how* he ate. "That food was so darn good," he said, "I've got to call it *great!* I think I'll give up hermit-ing, rejoin the ranks of men, so I can eat the Statler food again and yet again!"

5. Happy Hal, ex-hermit now, and leading businessman, like all who stay at Statler once, is quite a Statler fan. "I find I'm close to shows and shops, and close to business, too. I like the Statler in New York . . . I'm sure you'll like it, too!"

STATLER HOTELS: ***NEW YORK*** (FORMERLY HOTEL PENNSYLVANIA)
BOSTON · ***BUFFALO*** · ***CLEVELAND***
DETROIT · ***ST. LOUIS*** · ***WASHINGTON***
STATLER OPERATED: ***HOTEL WILLIAM PENN*** · ***PITTSBURGH***

WASHINGTON OUTLOOK

HIGHER TAXES—You still have to allow for them.

Since January, we have said repeatedly that Congress is going to hike taxes—on corporations. Our feeling was that there would be a new tax law—to raise another $2-billion or $2½-billion—by the time Congress quit in July.

Lately, you have been reading a rash of stories about cuts in Truman's budget, of warnings from men like Senate Tax Chairman George that a tax increase would demoralize business.

So, this week we took another look around. We added up the latest figures and we counted political pulses. After all, there's emotion as well as bookkeeping in taxes.

And we wind up with this: Higher taxes—yes, still. And still about $2-billion more. But effective next January rather than this July.

There are many reasons for pushing back the date. Business is in a period of uncertainty, and Congress wants all the time it can get to see which way things are going. Anyway, Congress is way behind schedule.

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DEFICIT FINANCING for fiscal 1950 is the alternative to higher taxes. Arithmetic demonstrates this.

Truman, in January, asked Congress to vote $41.9-billion for fiscal '50. To date, Congress has snipped less than $250-million off this figure.

The ballyhooed 15% slash in public-works construction funds comes to only about $150-million. Then there's this week's cut of $25-million from the $725-million agriculture bill.

All told, Congress won't do better than knock $1½-billion off Truman's $41.9-billion requests. That assumes elimination of the $600-million he asked for military training (which is certain) and an ultimate 10% cut in money for ECA (which isn't at all certain).

But these cuts will be offset—and more—by money for projects not in Truman's $41.9-billion. Congress is set to give the Air Force around a half-billion more than Truman asked for.

And there's the cash for European arms. The best figure we get is at least $750-million in fiscal '50.

So fiscal '50 spending will be at least $42-billion.

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WHAT ABOUT REVENUE? Truman figured in January that present taxes would bring in $41-billion in fiscal '50.

Since then the business picture has changed. Tax experts now look at Truman's estimate—he's always been low in the past—as the maximum you can hope for. Fiscal '50 revenues could even be $2-billion less.

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Thus, on balance, you can already see that fiscal '50 is in the red—from $1-billion to $3-billion.

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WILL CONGRESS PERMIT DEFICIT FINANCING to avoid higher taxes?

The answer today is still no. True, a balanced budget is no longer the sacred cow it has been. There is even talk that a little deficit spending might be helpful—it could give business a lift. But only a minority thinks so.

Taft and Harry Byrd reject this as the easy way out. They warn Congress: Cut government spending or increase taxes to pay the bills.

And they have already been voted down on a real budget-cutting test—the ECA bill.

•

MANGANESE CONSERVATION is being pushed by the government now that Russia is choking off a third of normal U. S. supplies (BW—Mar. 26'48,p21).

For the present at least, it's a joint industry-government project. Government men say the alternative is mandatory allocation, not only for manganese but for steel as well.

Their reasoning: Unless something is done, steel production will have to be cut back by the end of this year—for at least a year. With Russian manganese cut off, industry stockpiles won't last the year out at the present rate of use. And nobody is willing to tap the military stockpile for the short-range deficit.

Long-range—after two years or so—there isn't much to worry about. New production in Brazil and Africa will more than make up for the lost Russian supply.

But the only major source of immediate increase is from India; government expediters have been there since last fall without much luck. Better transport will step up shipments some from Africa's Gold Coast—but not enough immediately.

•

Conservation angles being worked on already: (1) using less manganese as a "cleanser" in smelting; (2) reworking slag with high manganese content. The American Iron & Steel Institute has

put up $50,000 for some Bureau of Mines research on the latter job.

A third possibility: lower content manganese alloys.

•

BRANNAN'S OWN FARM POLICY is this: The government should see to it that the farmer's share of the national income be kept at the share he's enjoyed over the last 10 years.

Until Brannan testified at this week's joint hearing, the farm issue was in terms of parity between specific crop prices and prices for things the farmer buys.

Instead of all this, Brannan says: Let's talk about the farmer's gross cash income in relation to total national income.

And he spelled out his own formula for keeping the farmer's share the same it's been over the last decade. He calls it: income support standard.

Brannan's plan asks Congress to scrap last year's Aiken law—written in terms of parity prices rather than parity income. He wants to hurdle the whole postwar squabble between rigid 90% vs. sliding-scale 60%-to-90% parity support.

But even more, this is Brannan's bid to insure that the farmer keeps the favorable position in the national economy he finally attained during the war. His experts figure that the price parity formula is no longer a good guarantee.

•

You might note that family-size farms get a better break than big industrial farms in Brannan's program.

He would limit government guarantees to a fixed maximum production of crops on a single farm. Today, this works out to provide supports for the farmer's first $25,000 of gross income. Volume over that would have to take its chance in the market place.

•

QUOTE-OF-THE-WEEK is Bevin's blunt statement that Britain has turned European. He said it before the National Press Club, his only public appearance here.

Bevin was overshadowed by Churchill, who spoke just a few hours earlier, in Boston. But Washington—both at State Dept. and ECA—count Bevin's remarks the more significant. Here's the nub of what he said:

"I ask you not to underestimate the decision Great Britain herself had to take when we accepted this offer (the Marshall Plan) . . .

"There we were, lying on the edge of Europe, with a sea between us, and yet using our influence to stop any one nation for centuries from dominating that continent . . . but never really of it . . .

"Could we play that role any longer? We came to the conclusion we could not . . .

"We decided that if Europe with all its great possibilities was to be saved, then Great Britain . . . must become European. That course we have decided and we are pursuing it with vigor."

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It was the unequivocal language Bevin used that impressed Washington. Britain has been moving into the European community for some time.

She is joined with France and the Low Countries in the political-military Brussels Pact. Economically, under ERP, she has been making sterling available to Marshall Plan nations to buy British goods. And, in Germany, she has agreed to give up her reparation rights in German plants to speed European recovery.

But Washington has felt that Britain had to be pushed into these things. Last year, Hoffman's people were complaining that Britain was dragging her feet on European cooperation.

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THE SELLING JOB on Truman's Point 4 to develop backward areas is getting under way.

First evidences:

• The current issue of the Democratic Digest carries the word to party workers from the man in charge, State's Willard Thorp.

• Last week, Interior Undersecretary Chapman told the story to Jefferson-Jackson diners at Des Moines.

The accent is on export of U. S. technical know-how. Money is being soft-pedaled.

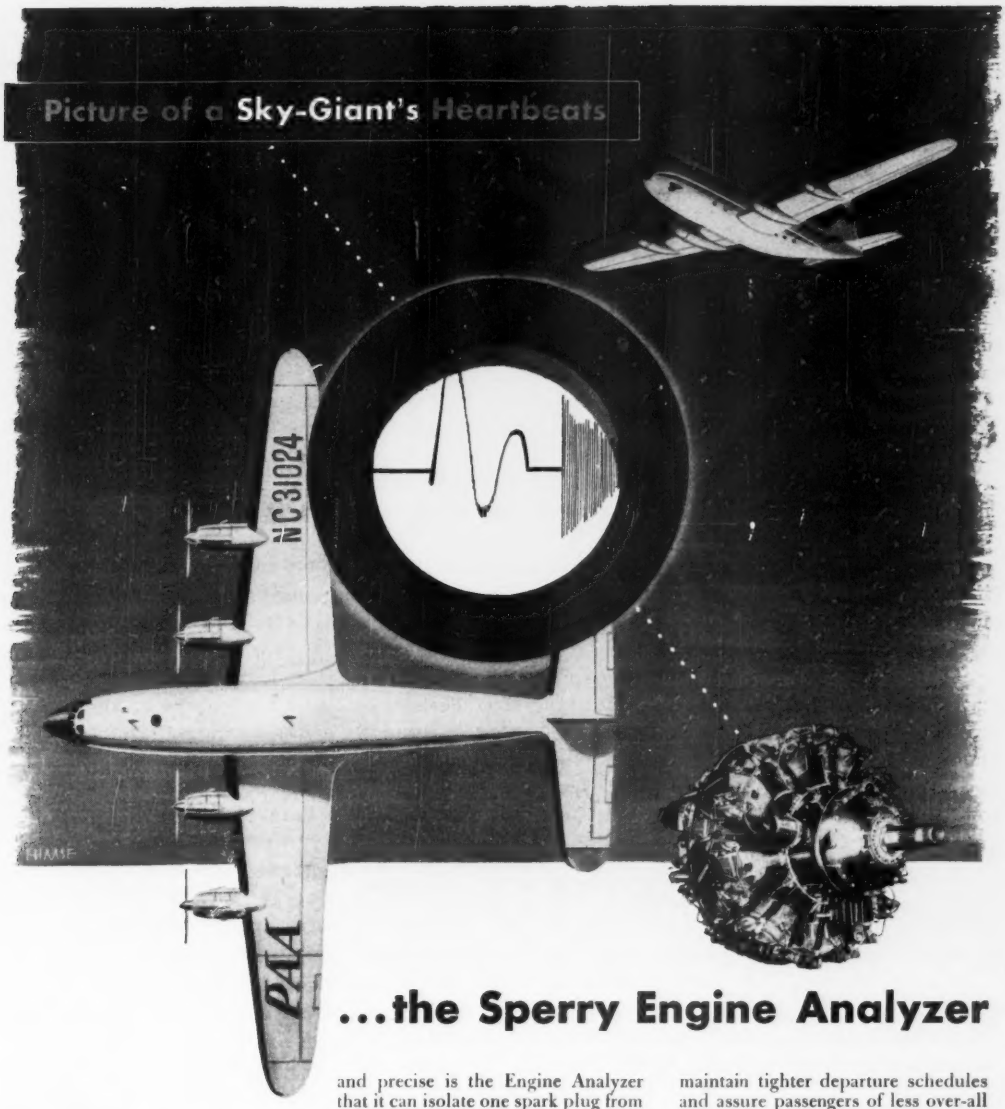
•

• Butter lobbyists take comfort from this: Women in the House voted three to two against repeal of the 10¢ penalty tax on colored margarine . . .

• The local decontrol provision in the rent control law plays into the plans of C.I.O.'s Political Action Committee. It gives Jack Kroll the issue he needed to stir up labor interest in this year's city council elections . . .

• Sawyer's task force has found 5-million tons of steel scrap in Japan. It's recommending a program that would reverse the pre-Pearl Harbor flow for stockpiling here.

• Henry Wallace has lined up a stable of five Marshall Plan nation party-liners to make a nationwide stumping tour of the U. S. preaching "peace and abundance."



...the Sperry Engine Analyzer

✂ High over the Atlantic and Pacific, the engines of Pan American's giant Stratocruiser and Constellation-type Clippers* will have every piston beat constantly checked by the Sperry Engine Analyzer. The first airline to install the Engine Analyzer, Pan American is confident it will open up "a new era in airline maintenance."

✂ Interpreting the graph-like patterns in the Analyzer scope, the Flight Engineer can *detect, locate* and *identify* every engine, magneto or ignition irregularity that might occur during flight or pre-flight check. So sensitive and precise is the Engine Analyzer that it can isolate one spark plug from among the Stratocruiser's 224 or the Constellation's 144.

✂ Working from the Flight Engineer's accurate report of his engines' performance, the ground crew can perform its maintenance without the loss of time involved in trial-and-error trouble-shooting. Thus, by reducing maintenance time, the airline can maintain tighter departure schedules and assure passengers of less over-all travel time.

✂ Sperry's Engine Analyzer is the first complete instrument provided for commercial aircraft to isolate detailed engine irregularities. Now in full production for airline use, the Engine Analyzer takes its place beside the many other Sperry products designed to aid commercial aviation.

*TRADEMARK, PAN AMERICAN AIRWAYS, INC.

SPERRY GYROSCOPE COMPANY

DIVISION OF THE SPERRY CORPORATION • GREAT NECK, N.Y.

NEW YORK • CLEVELAND • NEW ORLEANS • LOS ANGELES • SAN FRANCISCO • SEATTLE

IN CANADA: THE ONTARIO HUGHES OWENS COMPANY, LIMITED • OTTAWA

LIGHTING NEWS from LAMPS

Stiffer competition for the buyer's dollar has more and more businesses modernizing with new lighting. Many are installing slimline lamps, an advanced type of fluorescent introduced by General Electric. Advantages are: longer length (up to 8 feet), giving long, unbroken lines of light. Instant starting—no starters required. Easier, cheaper maintenance. Greater efficiency. Choice of 3 brightness levels.

Lower-than-prewar price is the rule rather than exception for General Electric lamps. In addition, today's lower-cost fluorescent lamps give more light and last longer, on the average. Actually, General Electric makes close to 2,000 changes a year in specifications to improve lamp quality and manufacturing procedures.

Warehousing facilities for General Electric Lamps in five new cities, (Omaha, Buffalo, San Diego, Memphis and New Haven) are speeding shipments of lamps to G-E Lamp suppliers. This brings the total of such cities to 36, most extensive in the business.

Six basic plans meet most needs. Analyzing hundreds of industrial lighting installations, General Electric lighting engineers have found most plant needs fall into one of six basic lighting systems—with combinations and adaptations to suit the individual needs of each plant. Basic points of each are described in "Six Recommended Lighting Systems for Industry," recent publication of G.E.'s Engineering Division. Copy Free. Write General Electric, Div. 166-BW9, Nela Park, Cleveland 12, O.

Where the lighting dollar goes. Major part of your lighting costs is maintenance, current, interest and depreciation, not cost of lamps. But efficiency of lamp bulbs is important in determining how much you get for your lighting dollar. Quality of General Electric lamps is assured by more than 480 tests and inspections.

New kind of lamp bulb announced by General Electric. Greatest improvement in the quality of incandescent lighting since G.E. introduced inside-frosted bulbs in 1925 is G.E.'s new 100-watt Deluxe-White bulb. Light is softer, better diffused; annoying reflections from glossy surfaces greatly reduced. Ideal for use where any part of bulb is exposed. List price, 20¢, plus tax. Quantity limited. But free sample for comparison with standard 100-watt bulb will be sent on request. Write General Electric, Div. 166-BW9, Nela Park, Cleveland 12, O., on your letterhead.

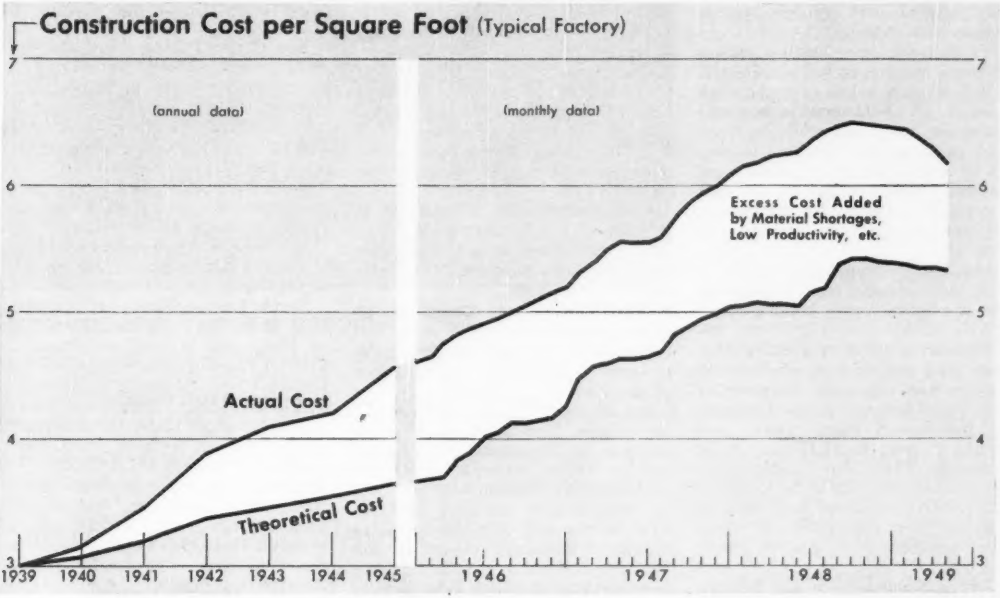
For complete information on lighting and lamps, see your local General Electric lamp supplier.

You can put your confidence in—

GENERAL ELECTRIC

BUSINESS WEEK

NUMBER 1023
APRIL 9, 1949



TO MEASURE THE RISE in the expense of building a factory that would have cost $3 a sq. ft. in 1939, you have to look from several angles. Increases in the cost of labor and materials (lower line, based on the Engineering News-Record index) by no means tell the whole story. Because of hidden factors, actual costs to the buyer (upper line, computed by Walter Kidde Constructors, Inc., on the basis of its experience) have been much higher. But the gap has narrowed in recent months. That's one reason . . .

Construction Costs Begin to Ease

Many materials are getting cheaper. Contractors no longer pad their bids to hedge against possible price rises. And hidden costs, such as slowdowns due to shortages, are declining.

After nine years, inflation has blown itself out in one of the major areas of U. S. business. Industrial construction costs have finally turned down.

For business generally, this means that one of the main threats to industry's capital-expansion plans (page 26) is receding. For overloaded municipal taxpayers, it means that the costs of public works may weigh a little less heavily on state and city budgets.

• **Extent**—If you want to let a contract for a factory building this spring, you probably can get a bid 5% to 10% below what it would have cost you last fall. On highways, bridges, and similar projects the saving may run up to 20%. Many states and cities are getting pleasant surprises these days when they open bids on projects that their engineers estimated a few months ago.

Kansas City, Kan., for example, took bids in March, 1948, on a project known locally as the Central Ave. viaduct job. The low bid was $876,309 for the entire job. Legal technicalities tied up the project so long that Kansas City had to take new bids on Feb. 17 this year. Plans and specifications were exactly the same. City engineers had estimated earlier that the cost would rise to $925,826. But the low bid was $849,693.

In Washington last week, the House lopped 15% off appropriations for the Army Engineers and for various reclamation projects (BW—Apr.2'49,p15). The explanation was that the estimates, prepared last fall, had allowed for an expected increase in costs that did not come.

• **Not the Whole Story**—Only a part of the recent change in the cost picture shows up in the indexes that measure materials prices and wage rates. The building-cost index compiled by Engineering News-Record, a McGraw-Hill publication, has been working its way down since the last quarter of 1948. But the total decline to date puts it only 1½% below its peak.

There are two things, though, that don't show up in the ordinary cost index:

(1) **Hedge against price rises.** As long as materials prices and wage rates were shooting up, contractors knew that costs on any long-term job would be higher at the finish than at the start. They automatically hiked their bids to cover themselves.

Now, contractors are getting firm prices from their suppliers. They can

afford to let the air out of their bids. And tougher competition for jobs is making them do it.

(2) **Hidden costs.** Low productivity and shortages of materials added "invisible" costs to every construction job for the first three years after the end of the war. Bottlenecks in supplies sometimes stopped work entirely. Green help ran labor costs up.

For instance, one South Carolina contractor says that he had to add 15% to 20% to every bid to cover the costs of delays. "I would move in men and equipment on a project," he says, "start working, and then have to stop and sit around because I couldn't get material. While I waited for the stuff to come, my expenses for maintaining that crew and equipment went right on piling up."

• **How Much?**—Around the middle of 1948, these invisible costs boosted the price of a typical factory building about 20%.

Take for example a building that would have cost $3 a sq. ft. in 1939. The climb in wages and the prices of materials (as measured by the Engineering New-Record index) would have boosted its price to $5.43 a sq. ft. in September, 1948. But Walter Kidde Constructors, Inc., one of the big industrial builders, estimates from its own experience that the actual cost would have been about $6.50 a sq. ft. (chart, page 19).

• **Getting Smaller**—Since last fall, the spread has been narrowing. This month, the Engineering News-Record index would give a price of $5.34 a sq. ft. for the same building. The actual cost, according to Kidde, is $6.18.

Builders think the spread will narrow even more in coming months. They also think that materials costs (but not labor costs) will continue to ease off. They are cautious about predicting any dramatic drops in total costs—either actual or theoretical. But the past few weeks have seen a shower of price cuts, all fairly small individually, which could add up to a good-sized saving in total costs.

• **Starter**—The first real break came in lumber. Actually, that started over a year ago. Lumber prices reached their peak in February, 1948. They broke in March, rallied again to a secondary peak on July 1, and since then have declined steadily for nine straight months. At the start of April, this year, they were 12% below their February, 1948, high—but still 163% above 1939.

During most of 1948, the drop in lumber was more than offset by the third round of construction wage boosts, and by the price rises in steel and cement that followed the switch from basing-point to f.o.b.-mill pricing.

• **Followers**—But in the past month other prices have started down. Breaks in steel scrap and the nonferrous metals in primary markets (page 94) have set off repercussions.

Warehouse prices for structural shapes were cut from $5.65 to $5.45 a 100 lb. in Cincinnati and from $5.71 to $5.13 in New York.

Galvanized sheets and pipe have reacted to the break in zinc prices. Republic Steel cut galvanized sheets by amounts running to $5 a ton. Carnegie-Illinois cut them between 80¢ and $5 a ton, depending on the gage. National Tube has raised discounts on galvanized pipe, so that the price is down $3 a ton. Youngstown Sheet & Tube cut galvanized pipe $1 to $3 a ton, depending on size.

Sheet-conduit prices dropped 3% to 6% during March. Fittings and couplings went down as much as 10%. Steel outlet boxes dropped 3% to 10%; armored cable, 10%.

• **Labor Cost**—Wage rates show no signs of softening, except in one or two exceptional areas. The best that builders hope for is to avoid a fourth round of increases.

But labor productivity has been edging upward. Contractors in 16 cities surveyed by Engineering News-Record estimate that by September, 1948, the productivity of common labor was back to about 82% of the 1939 level. In 1946, it was only 65%. Skilled labor (average of carpenters, ironworkers, and bricklayers) shows a gain in efficiency from 64% of the 1939 level in 1946 to 73% in September, 1948.

• **Lower Bids**—All this shows up in the bids that contractors are putting in for the big industrial and public-works jobs.

Last September, the Army Engineers got an average of four bids per job on 56 bid openings (BW—Apr.2'49,p15). Low bids averaged 4% higher than government estimates. This March, the Engineers averaged six bidders on each of 15 openings. Low bids ran 7½% below estimates.

• **Some Local Jobs**—In January, Pennsylvania asked for bids on a $2-million dam. It got four, but all had to be rejected because of a legal tangle. When the state asked for bids again in February, the same four companies responded—and in each case the bids were lower the second time.

On Mar. 16, Greenwood, S. C., opened bids on a waterworks-improvement job. The engineer's estimate was $48,140. The low bid, submitted by Ridlehuber & Co., of Greenwood, was $28,094.

In Los Angeles, engineers estimated a parkway undercrossing would cost $674,907. Low bid was $506,752. All 10 bids received were under the estimate. The California Highway Dept. reports that, in general, the bids it is getting this year run 25% to 30% under 1948.

Auto Prices Down

Ford and Nash joining trend to cut quotations slightly. Trucks affected, too. More cuts may follow.

The Harvard student newspaper reporter had a question: "When will we be able to buy a new car for $1,500?" he asked Henry Ford II.

Ford replied, "Of course, it depends a lot on union demands, but lower car prices this year are possible."

• **Spur**—That remark, at a Boston press conference, was enough to set rumors flying. Ford was going to cut prices, soon. Ford dealers howled from coast to coast: Customers were holding off, hoping for action.

Result: Last week end, six days later, Ford Motor Co. cut prices $12 to $30 on Fords, $80 to $120 on Mercurys, $100 on Lincolns. (The 6-cylinder Ford business coupe still lists at its old price: $1,236 at Detroit.) This week, dealer discounts, which had been reduced about 2%, were restored to the traditional 24% to 25%.

• **Trend**—General Motors, Willys-Overland, and Kaiser-Frazer had already come out with price cuts (BW—Apr.2 '49,p21). These, plus Ford's move, make one thing clear: The day for general price revisions throughout autodom is at hand.

This week Nash division of Nash-Kelvinator Corp. joined the ranks. Nash reduced list charges from $20 to $120 on its two series. George W. Mason, N.-K. president, said more materials at lower costs, more output, and uninterrupted schedules explained the cuts.

Also this week, Ford Motor Co. of Canada, Ltd., pared prices from $30 to $114 on passenger cars, from $16 to $42 on lighter trucks.

Only prior trucks-price drop of note has been the $100-to-$150 cut on GMC's.

• **Summing Up**—Here's the auto price-cut lineup, in chronological order:

General Motors Corp.	
Chevrolet	$10
Pontiac	$15
Oldsmobile	$15 and $20
Buick	$16 to $30
Cadillac	$25 to $40
Willys-Overland	$40 to $270
Kaiser-Frazer Corp.	
Kaiser	$314 and $333
Frazer	$198 to $316
Ford Motor Co.	
Ford	$12 to $30
Mercury	$80 to $120
Lincoln	$100
Ford Motor of Canada	$30 to $114
Nash	$20 to $120

Crowds Pick Filene's Basement Plan

Filene's revived its annual $11 bargain-basement sale of men's clothing last week. At 8:30 a.m. Monday the Boston department store threw on sale 7,000 suits, topcoats, and overcoats—cash and carry, no alterations—bought during a three-year period from 18 nationally known stores. Regular price tags on the garments had read from $27.50 to $55. Customers lined up at 6 a.m.; there were 3,000 milling around when the doors opened. By 8:30 p.m. a weary staff of 200 salesmen had sold out the entire stock.

Sears' Expansion Pays Off

Board chairman Robert E. Wood says postwar program is complete. He believes the company is stronger than ever financially. It broke all sales and profits records last year.

Ever since the war, retailers have tried to keep close watch on the big expansion program of the country's mail-order giant, Sears, Roebuck & Co. But until last year's report (BW—Apr.3'48, p66), Sears had kept the details of the program under its hat. Meanwhile, sales doubled from $1-billion in 1945 to a shade under $2-billion in 1947.

Last week board chairman Robert E. Wood brought the story up to date as he made public the annual report for the year ended Jan. 31, 1949. For the first time he disclosed the full scope of the company's postwar expansion program, which has now been completed.

• **Biggest Year**—Wood also announced that Sears in 1948 had the biggest sales (nearly $2.3-billion) and net profits ($137.2-million, equal to $5.80 a share) in its history.

At the same time, Gen. Wood gave a firm reply to critics who have charged that Sears' heavy investment in new and bigger stores, mail order plants, and warehouses may have strained the company's resources dangerously.

• **Divergent Policies**—In the past three years, Sears has invested a total of $184-million in capital improvements. Of this total, $67-million came from the sale of retail-store properties to insurance companies,. $117-million from earnings. The postwar tally on stores comes to 75 built or relocated, 38 given major additions.

No two policies could be more divergent than Sears' and the one that its nearest competitor, Montgomery Ward & Co., now pursues. Ward's board chairman, Sewell L. Avery, feels that this is no time for expansion, with costs high, so he has allowed no capital improvements. Instead, Avery has preferred to lay up reserves against future inventory losses and to pay favorable dividends (BW—Jun.26'48,p24).

• **Other Outlays**—Sears reports other big outlays besides those for expansion. It has had to provide the cash to carry an inventory $220-million larger than prewar.

But despite this, says Gen. Wood, Sears wound up the year in the strongest financial position in its history. It had (1) no fixed debt, (2) no bank loans, and (3) a cash balance of $200-million—$81-million more than the total of both cash and short-term government securities held a year earlier.

• **Philosophy**—Gen. Wood had something to say on the philosophy behind Sears' expansion program of the past 10 or 15 years. The company believes that it should plow back into the communities where its stores are located some of the money it makes there. This means up-to-date stores to serve community needs. Gen. Wood says the company doesn't approve of the emphasis many retailers now put on an absolutely liquid position and on the smallest possible investment in brick and mortar.

Future Sears' expansion will depend on the growth of individual communities. The rate, however, will be less than the past three years. Gen. Wood estimated expenditures on future expansion at about $20-million to $35-million a year.

Here are some other highlights from the Sears' 1948 report:

NET INCOME represented 5.98% on sales, compared with 5.44% in 1947.

MERCHANDISE INVENTORIES were down $1.8-million from the 1947 peak.

GOODS ON ORDER stood at $263.3-million, down $84.8-million because Sears can now get quicker deliveries.

FOREIGN INVESTMENT totaled $11.5-million, with two Latin American stores (Rio de Janeiro and Caracas) under construction (BW—Mar.5'49,p109).

The outlook for 1949 sales so far appears less promising than 1948 to Sears executives. Sales so far are lagging 8% to 13% behind last year's figures. But Sears merchandisers aren't pessimistic. They attribute this drop in part to the return of normal seasonal buying patterns.

KINKS IN OHIO CONVEYOR

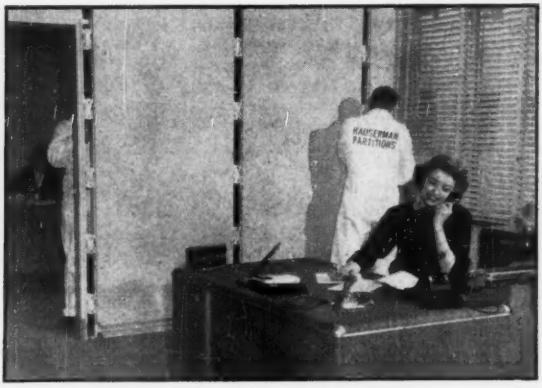
The proposed $210-million, 130-mi. conveyor belt from the Ohio River to Lake Erie (BW—Feb.12'49,p45) is under heavy fire. Twelve railroads and the combined railroad brotherhoods are doing the shooting. They have just killed all chances that this year's session of the Ohio legislature will pass a law enabling the line to operate. That means a wait for the 1951 legislature.

The railroads insist that, to qualify as a public utility, the belt—which would haul coal, iron ore, and limestone for Akron, Canton & Youngstown R.R.—must carry other things besides "the cream of the traffic." Their charge: The belt operation would drive rail freight rates higher. Belt backers reply that, at most, the conveyor would take only 2.5% of the railroads' revenue.

Meanwhile, the United Rubber Workers (C.I.O.) has jumped into the fight—in defense of the conveyor belt.

1 General Petroleum Corp. building in Los Angeles is modern inside and out. Window fins deflect hot sunrays

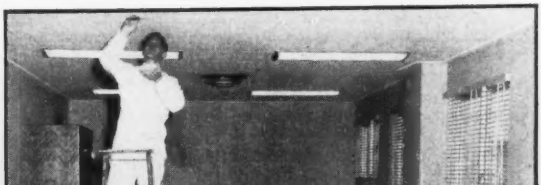
2 Office space, designed on modular basis, offers maximum flexibility. In 37 minutes these two offices will become one



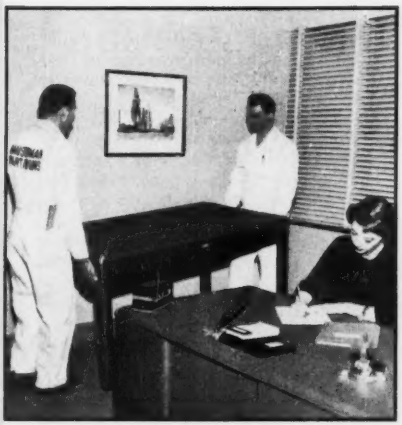
6 Steel clips which hold panels together are exposed as covering stripping is removed

Office Remodeled in

9 Floor rests are pried up from bolts which hold them to floor. The rug will have to be patched later



10 Job is finished. Small holes left in ceiling by channels are plugged with asbestos cement



3 Workmen arrive. Only piece of furniture they have to disturb is table by wall

4 First step in taking down wall is to rip off flexible baseboards

5 Molding at top of wall, held by tension to channel in ceiling, comes off

7 As executive and secretary go about their business, workmen take down last full-size panel

8 Workman draws away last of small sections from the wall panel which supported it

30 Minutes in New Los Angeles Building

On Flower St. and Wilshire Blvd. in Los Angeles last week businessmen got a look at a building designed for postwar business living.

The new General Petroleum Corp. structure makes a reality of some of the most advanced ideas in commercial architecture. It is cleancut, adaptable, flexible. The ease with which office space can be remodeled is shown on these pages. Not shown, but equally important, are the great savings in costs if the interior is rejiggered. On today's market, tearing down a wall of plaster and concrete can be a $1,000 job—not considering the time and inconvenience involved.

• **Modular Design**—The key to the building's flexibility is the commercial adaptation of the module (BW—Sep.13'47,p54). The architects, Walter Wurdeman and Welton Becket, thought this the best way to meet the changing needs of a company like General Petroleum. Thus, they designed every one of the building's 13 floors on a basic module of seven feet. For every seven-by-fourteen foot area there is an air-conditioning outlet, a thermostat, telephone outlet, lights, a window, and plumbing for a washstand. With the movable partitions, made by E. F. Hauserman Co., Cleveland, an office can be any combination of these dimensions.

• **Savings in Weight**—Structurally, the building makes the most of lightweight materials. Some 13,000 tons of deadweight in the building were eliminated by using pumice concrete and hollow permanent walls of the rockite. These weight reducers in turn permitted a lighter steel framework.

The building is completely air-conditioned. Even this feature is designed for flexible use: Any part of any floor may be serviced at night or on holidays, without servicing the whole building. Vertical aluminum fins along the windows on three sides of the building take part of the load of the air-conditioning equipment—by shading the windows from the pelting heat of an afternoon California sun.

• **Occupants**—About 45 companies have leased space in the building, although General Petroleum itself is using a major part of the 500,000 sq. ft. In line with Los Angeles height limitations, the building rises to only 150 feet. Its construction cost some $8-million; following a now-common practice in business real property arrangements, General Petroleum has sold it to New York Life Insurance Co. and leased it back.

"Ghost" Orders Fan Out

Cutting-tool makers are second industry to get notification of what the armed forces will need if war comes. Machine tools were first. Next in line: gages, bearings, industrial furnaces.

Within a week, the government will start sending out its second batch of "ghost" war orders. They will go to about 75 manufacturers of cutting tools. (The first batch covered the machine-tool industry.)

• **More Coming**—Eventually, the National Security Resources Board, Uncle Sam's war-planning agency, hopes to cover every standard product that could be used for military purposes. Next month it plans to issue phantom orders for gages. Later orders are to cover anti-friction bearings, factory-made industrial furnaces, and, perhaps, fractional-horsepower motors.

The board has abandoned an earlier plan to place phantom orders for abrasives. Instead, the Munitions Board will stockpile these. That's because abrasives are easy to store, and don't deteriorate.

• **What a Ghost Is**—As their name implies, ghost orders don't call for any actual production—yet. They merely tell manufacturers in detail what the government will want them to supply at once when and if any shooting starts. This gives the manufacturers time to contact their suppliers and subcontractors, and to make production plans.

In case of war, the orders can be put into immediate effect by a telegram from the government (BW—Aug.21'48, p21; Oct.9'48,p21).

• **Sequence**—It is logical for cutting tools to follow machine tools in the parade of ghosts. Cutting tools are the business end of machine tools. Neither kind of tool can operate without the other: Cutting tools must be inserted in machine tools to be of any use; machine tools can't do any work without cutting tools.

NSRB describes cutting-tool manufacturers as "a small, specialized industry, essential in the manufacture and maintenance of practically all the weapons of war." It points out that, though the cutting-tool trade is only one-third the size of the machine-tool industry, it's fully as important from a military standpoint.

• **$60-Million**—The cutting-tool orders that will go out starting next week will cover $60-million worth of tools made with high-speed steel. The dozen companies that make cemented-carbide cutting tools will get their orders later. Reason: NSRB's study of the country's capacity to produce carbide tools isn't completed yet; so NSRB doesn't know how many of these tools to order.

The government has a substantial reserve of cutting tools (the exact size is a military secret). So the total of ghost orders is comparatively low in relation to the industry's capacity.

• **What Is Capacity?**—An unpublicized report by NSRB quotes the Metal Cutting Tool Institute as estimating production of its members at $84.6-million in 1947—the latest year available. This compares with estimates of $178-million in 1942, the wartime peak, and $47.1-million in 1940. The industry at present is running on a one-shift basis—and this shift is not at full capacity. Full operations on one shift could probably boost output by 33⅓% over 1947 output. Adding a second shift would add the equivalent of 90% of full first-shift output; a third shift would add another 60%.

These figures are all for institute members. To get total capacity you have to add 30% to account for production by nonmembers. Thus, the total annual capacity of the industry, based on 1947 output of institute members, comes to more than $350-million.

• **Variety**—The orders for high-speed-steel tools are based on dollar value rather than number because of the great differences between various types of cutting tools. They include such items as: counterbores, cut-off blades, metal-slitting saws, drills, taps, dies, and broaches.

Orders will be reviewed once a year. That will give the government the opportunity to revise them in line with technological developments and changes in reserves, industry capacity, and military needs.

• **High Priority**—The NSRB report recommends that manufacture of cutting tools be given the highest priority in the event of a war, both "ahead of and along with the manufacture of weapons of war." It calls for draft deferment of industry employees, particularly skilled ones.

The report also recommends inspection, inventory, classification, and storage of the stockpiles of cutting tools owned by the Army and the Munitions Board. It says a staff should be hired at once to complete the job quickly. The report warns: "According to the present rate at which this work is now being carried on, it will take at least two years to do the job."

• **Experiment's Result**—The first batch of ghost orders covered about 100,000 machine tools. The experiment, according to Edward V. Hickey, director of NSRB's Office of Production, was completely successful. The whole thing went ahead without requiring any major revisions in the plan.

Every machine-tool builder in the country cooperated. Each one told NSRB whether it could handle such an order with its present capacity—and almost all of them can.

The manufacturers have also contacted their suppliers and subcontractors, and have everything lined up for wartime production. The companies have told the board their manpower requirements.

NSRB even turned up a dozen or so machine-tool manufacturers it didn't know existed. Somehow—perhaps because they are small—the Commerce Dept. missed them when it compiled the list for the board. But the companies that were left out soon heard about the phantom orders, and told NSRB that they, too, want to do their part.

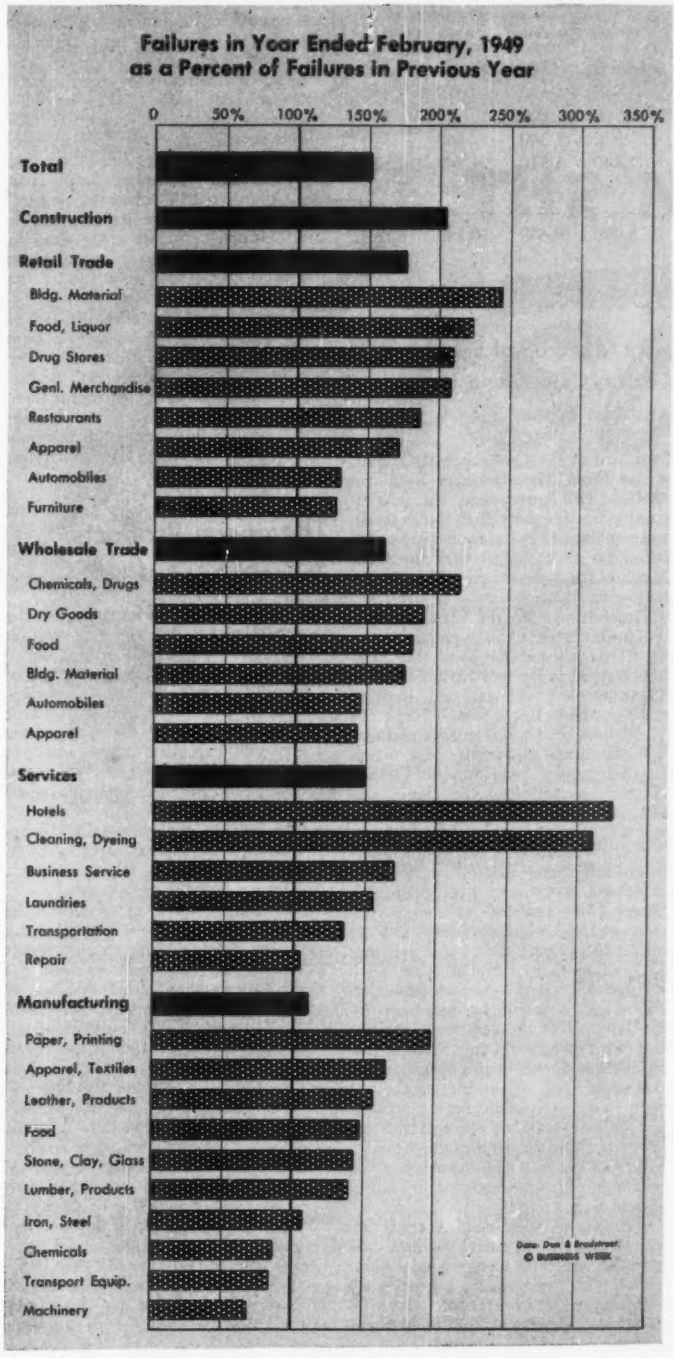
• **Talk and Action**—NSRB officials say, for the record, that they only "plan" to extend the phantom orders to other industries. That's because they still consider the whole thing an experiment.

But their actions indicate that they are really convinced that they should go ahead on a wide scale.

For Federal Efficiency

To keep steam up behind the Hoover Commission's recommendations for a more efficient government is now the job of Charles B. Coates (above). He has been named vice-chairman and general manager of the Citizens Committee for Reorganization of the Executive Branch of the Government. Coates assisted Herbert Hoover during the commission's fact-finding study. He formerly was assistant director of public relations for General Foods Corp., before that an associate editor of Factory, a McGraw-Hill publication.

Failures Grow as Competition Returns



Comparisons of casualties in various businesses during last two years show big jumps among construction and retailing firms.

Business casualties are rising these days pretty much in direct relation to the spread of the buyers' market.

• **Expected**—During the war, and until most of the shortages were met, business failures were uncommon. But that didn't close anyone's eyes to the fact that they would come back. For one reason, a lot of people with little or no business experience had plunged in on a shoestring. For another, a lot of war-born businesses lacked seasoned management—men who knew how to sell rather than just take orders.

The chart (left) shows how failures compare in the last two years. The lines do not show the actual number of failures. For instance, while hotel failures show the greatest rise, there were fewer hotel failures reported than in other businesses, except apparel and dry-goods wholesaling.

• **Actual Numbers Listed**—Dun & Bradstreet's figures on the number of failures in various businesses compare as follows:

	Years Ended Feb 1949	1948
Construction	510	249
Retail Trade	3,452	1,394
Bldg. Material	171	70
Food, Liquor	598	266
Drug Stores	61	29
Genl. Merchandise	113	54
Restaurants	469	251
Apparel	350	203
Automobiles	209	160
Furniture	256	199
Wholesale Trade	757	464
Chemicals, Drugs	43	20
Dry Goods	21	11
Food	205	112
Bldg. Material	64	36
Automobiles	41	28
Apparel	26	18
Services	490	327
Hotels	26	8
Cleaning, Dyeing	56	18
Business Service	68	40
Laundries	28	18
Transportation	180	133
Repair	76	73
Manufacturing	1,498	1,362
Paper, Printing	69	35
Apparel, Textiles	197	119
Leather, Products	77	49
Food	187	126
Stone, Clay, Glass	46	32
Lumber, Products	272	195
Iron, Steel	87	81
Chemicals	49	57
Transport Equip.	46	54
Machinery	210	308

Outlays for New Plant and Equipment

(In Millions of Dollars)

	Actual 1948 Total	Estimated 1949 Total	1st Half Actual 1948	1st Half Estimated 1949	2nd Half Actual 1948	2nd Half Estimated 1949
Manufacturing	$8,340	$7,240	$3,940	$3,800	$4,410	$3,440
Mining	800	820	380	370	420	450
Railroad	1,320	1,450	580	800	730	650
Other transportation	700	650	370	340	340	310
Utilities	2,680	3,130	1,140	1,510	1,540	1,620
Commercial and misc.	5,390	5,010	2,580	2,650	2,800	2,360
Total	$19,230	18,310	8,990	9,460	10,240	8,850

Capital Spending Tapers Off

Commerce-SEC estimates point to a drop of 5% this year under 1948's total. Manufacturers' outlays are falling faster than the rest. But there's no sign of a disastrous break.

Business spending for new plants and equipment will continue to ease off in the second half of 1949. But it will still be running at a high rate—not far below the record-breaking levels of 1948.

That's the story you get from the latest estimates of the Securities & Exchange Commission and the Dept. of Commerce. Their quarterly survey of capital-expenditure plans shows that the total for the year will come to $18.3-billion. That is only about 5% under the 1948 total of $19.2-billion.

In dollar amount, 1949 outlays for expansion and modernization will be greater than any other year except 1948. In terms of physical units, they will be about equal to 1947. A larger slice of this year's spending will be going into modernization instead of expansion of capacity. This is especially true in the manufacturing group.

• **By Quarters**—The Commerce-SEC figures show first-quarter spending of $4.7-billion this year. This is 12% above the first quarter of 1948. Allowing for seasonal factors, it represents about the same rate of business expansion you had in the final quarter of 1948 when expenditures hit $5.4-billion.

The second quarter is running a little under 1948—$4,780,000,000 against $4,820,000,000. In the last half of the year, Commerce and SEC figure that outlays will dip about 14% under last year's rate.

These estimates check closely with the results of the McGraw-Hill survey of capital-spending plans, made late in 1948 (BW—Jan.22'49,p54). The McGraw-Hill survey showed that industry planned to spend $14,130,000,000 on new plants and equipment in 1949. This estimate did not cover expenditures in the trade, service, and finance fields, which account for some $4-billion of the Commerce-SEC total.

• **Less From Manufacturers**—Both the McGraw-Hill survey and the government estimates show that the expenditures planned by manufacturers are falling off more sharply than the total. Much of the slack is being taken up by railroads and utilities.

Expenditures by the manufacturing group were $1.9-billion in the first quarter. That is somewhat above the $1.8-billion spent in the first quarter of 1948, when business was generally hesitant and uncertain. But it is well below the $2.3-billion of the final quarter of 1948.

In the second quarter this year, manufacturers' outlays will drop to $1,860,000,000, according to the Commerce-SEC estimates. In the same period a year ago, they were running $2.1-billion.

For the year as a whole, manufacturers will spend $7.2-billion for new plant and equipment, against $8.3-billion in 1948. Railroads are expected to go up from $1.3-billion in 1948 to $1.5-billion this year. Utilities will rise from $2.7-billion to $3.1-billion.

• **Upward Revision?**—Nobody knows, of course, just how firm business plans for the last half of the year really are. In the past, Commerce and SEC usually have adjusted their figures upward as the year went along. This reflected the fact that many businesses were uncertain about their plans at the start of the year. In 1948, total business expenditures on plant and equipment ran about 3% above the estimates made in the second quarter.

The same thing could happen this year—especially if general business prospects improve and Congress goes home without passing new tax legislation. A drop in construction costs (page 19) might also bring some additional expansion off the shelf. But experts point out that the price of the building is less important to the ordinary business than the price of the equipment that goes into it. About 70% of last year's outlays went for machinery and other equipment; only 30% was earmarked for construction costs.

• **Effect of a Nosedive**—A sharp drop in business undoubtedly would scare many companies out of the expansion they had tentatively planned. In that case, expenditures in the last half of the year would slide off much more sharply than the Commerce-SEC estimates suggest. But a high level of capital spending is itself insurance against a big drop in business. The spending for capital goods has been one of the mainstays of the postwar boom.

In general, the Commerce-SEC figures fit in neatly with the business picture this spring. They show that some of the pressure of heavy spending will be easing up from now on. That means there will be a general slackening in the pace of the boom. But they don't show any sudden drop that would knock the props from under business.

Thompson Products Tries Remedy for Bigness

When a company expands to the point where its close-knit organization begins to stretch, what should it do?

Frederick C. Crawford, president of Cleveland's fast-growing Thompson Products, Inc., has recently faced that problem. His answer—which explained a series of executive promotions this week—is simply this: Regroup your company into integrated, autonomous operating units.

• **Old Spirit**—Crawford recalls the enthusiasm of his management team in the earlier days, when Thompson was a smaller, more intimate company.

Crawford decided to recapture the old spirit, and also leave officers of the company free to work on long-range planning. So he began to split the company up into distinct divisions as soon as it had completed its World War II contracts. The promotions last week were a continuation of the executive regrouping.

• **Promotions**—The Valve Division will be managed by G. R. Moore. He will direct the engineering, manufacture, and sales of automotive and aircraft valves. Other division posts—those of assistant general manager and sales manager—were also filled.

The Jet Division got an assistant manager—Irwin A. Binder—and a director of sales and engineering.

The Parts & Accessories Division was also given an assistant manager. He is E. P. Riley, promoted from engineering and sales manager.

A SINCLAIR *First!*

THE NEW

Rustop

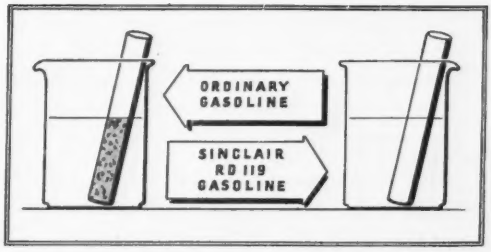
In RD 119 (Rustop), Sinclair's new rust preventive, we have found a product that completely ends the possibility of rust due to the moisture content of petroleum products. RD 119, a discovery of the Sinclair Research Laboratories, is now being used in all our products pipe lines.

Because it is so efficient that its protection lasts as long as the product with which it is mixed, RD 119 prevents rust in automobile tanks and fuel lines in which Sinclair gasoline is used. It saves us hundreds of thousands of dollars a year—it will save the gasoline user a great deal more. It also prevents the clogging of oil-burner jets.

This is another example of Sinclair's progressive research – another reason why . . .

SINCLAIR—

is a Great Name in Oil



HERE'S LABORATORY PROOF of RD 119's effectiveness in preventing rust! The bar of steel on the left of this diagram has been immersed in ordinary gasoline for 48 hours and is coated with rust. In your car, these rust particles can clog fuel lines, strainers, carburetor jets—cause extra wear on precision parts of the carburetor and fuel pump. Now note the bar of steel in Sinclair gasoline to which RD 119 has been added (*right*). This steel bar after 48 hours of immersion remains completely free of any sign of corrosion—RD 119 gives the same protection to the fuel system of your automobile.

SINCLAIR OIL
CORPORATION
630 Fifth Avenue · New York 20, N.Y.

BUSINESS BRIEFS

Second-line truck tires are being revived by rubber companies because of competition from the mass distributors. Firestone's "standard" line will be priced "substantially lower" than its other truck tires; so will Goodyear's version of its prewar Marathon line.

•

Warehousing deal between U. S. Steel Supply and Reynolds Metals (BW—Sep.11'48,p22) is ready to roll. Donald F. Stone is head of the new U. S. Steel sales division that will handle Reynolds' aluminum mill and building products.

•

Rayonier's first-quarter earnings this year were down from last year—$1.71 a common share vs. $2.16. President Edward Bartsch lays Rayonier's decreased sales to "temporary curtailment of production" by its principal customers, the viscose and acetate yarn producers (BW—Nov.29'47,p22).

•

Oleomargarine tax repeal has passed the House. Chances are the Senate will also approve of doing away with the 10¢ tax on colored margarine—if the legislative log-jam ever loosens up so the bill can get out of committee.

•

More natural gas is on the way for: (1) Ohio, via an 800-mile pipeline to be built this year by Texas Gas Transmission Corp.; and (2) the Northeast, because of Texas Eastern Transmission's plans to increase line capacity. The Federal Power Commission has O.K.'d both projects.

•

Rubber consumption in February slid into it slowest valley since mid-1947. The Commerce Dept. puts the month's use at 80,853 long tons as against 86,000-odd a year earlier.

•

Burned out Mar. 17, Prestole Corp. is already back in business, thanks to Toledo's community teamwork. Local firms helped the fastening maker to salvage, clean, and repair its dies, and to set them up in machines in another plant. Within a week, Prestole had three shifts working at full production. Customers are getting their orders on schedule.

•

U. S. shipyards turned out 126,418 gross tons of ships during 1948, a drop of 38,430 tons from 1947. It was the industry's worst year since 1936. Lloyd's Shipping Register say 65.4% of the U. S. output was built for foreign flags.

•

The New Haven R.R. does more than sell theater tickets (BW—Feb.26'49, p72). Now you can also make hotel reservations in Boston or Providence when you buy a train ticket in New York.

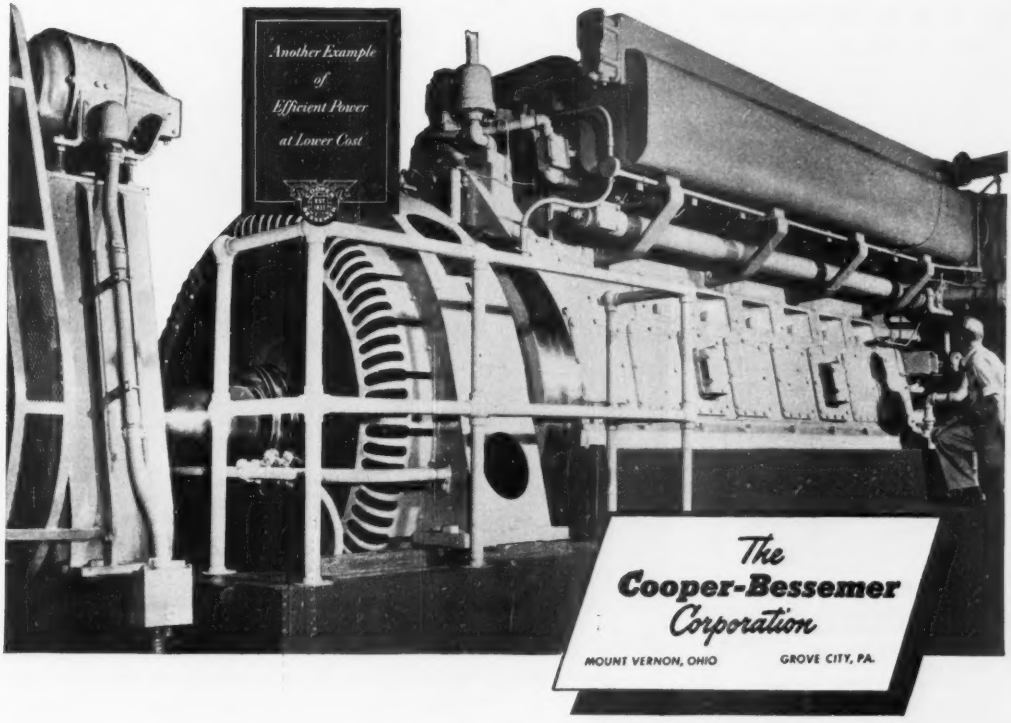
This diesel went on a heavy diet to save thousands of dollars a year

A GOOD diesel can often save a power user money in more ways than one. On the Island of Nantucket, for instance, this Cooper-Bessemer diesel saves $11,950 a year by running successfully on fuel oil so thick and heavy it will hardly flow unless heated.

The Nantucket Gas & Electric Company needed more power than that produced by an aging steam turbine. A diesel was the logical, economical choice. But due to existing fuel storage facilities and the island's transportation problems, there would be tremendous additional advantage in fueling the engine with the same low-cost, heavy oil burned in the turbine boiler and used in the manufacture of gas. A Cooper-Bessemer was picked because these modern engines had often shown their ability to run efficiently, reliably on heavy, cheap oils.

This and a whole raft of other outstanding performance records are made possible by refinements and new developments engineered at Cooper-Bessemer. Are you familiar with them? They are reducing expense in railroad and marine service, and in stationary power installations of every description.

So if you want to know how you can cut *your* power costs year in, year out, find out about the *new* things being done by one of America's *oldest* engine builders.



DIESELS • GAS ENGINES • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS

CITIES

Bait for New Industries

Industrial foundations offer many lures to attract new payrolls: land or buildings for sale or rent; loans; subsidies. Tulsa Chamber of Commerce reports on survey of foundations.

The postwar decentralization of industry has been a boon to many cities and towns. By and large, the ones that have benefited most are those which set out actively to get new industries. Many local governments have done this directly. But in a lot of cases, the job has been done by private organizations of public-spirited citizens, known as industrial foundations.

• **Survey**—It has been common knowledge that such outfits exist, and that their number has been growing rapidly since the war. But there has been no specific knowledge of how many there are and where, of how they are set up, of how they differ among themselves as to purposes and methods.

Now a comprehensive survey and analysis of industrial foundations is available. It was compiled for the Tulsa Chamber of Commerce by the chamber's industrial department. A lot of data came from direct correspondence with chambers of commerce and industrial foundations themselves, all over the country.

• **Cross-Section**—The survey makes no pretense of having a complete list of all the foundations in the country. It is based on a good cross-section, however—70 of the groups, in 26 states (box, page 34). Of the 70, 21% are in cities of less than 5,000 population; 26% in cities with 5,000 to 25,000; 21%, 25,000 to 50,000; 19%, 50,000 to 100,000; and 13% over 100,000. More than 80% of them have been set up within the past five years. Oldest in the group—in La Crosse, Wis.—has been operating since 1911.

The report describes an industrial foundation as "a corporation provided with funds by public subscription or

Water Power Returns—in a Blaze of Light

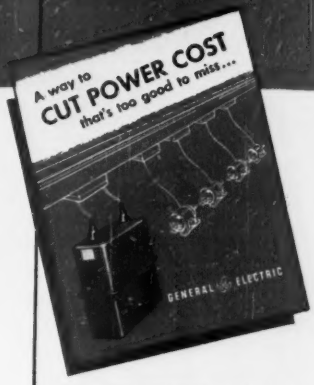
The long winter is over for Spokane, Wash., and so is the power shortage that darkened the district during the record freeze. To celebrate, Spokane's citizens are reveling in a splurge of light. Washington Water Power Co. has switched on a battery of floods over the Spokane River cataract in downtown Spokane. The move serves as a gesture of thanks to the city for voluntarily cutting down on power used during the shortage, and it marks Washington Water Power's 60th anniversary.

here's a "bank" that pays 633% yearly interest !!

The Old Dominion Iron and Steel Co. of Richmond, manufacturers of welded steel tanks, were in for a surprise. They decided to boost their power factor from 65% to 85% by installing a bank of 15 G-E capacitors—counting on power company bonuses for this higher power factor to pay for the installation in three years.

Faster and better welds provided the real pay-off. By cutting voltage drop, and particularly voltage variation as the a-c welders are switched on and off, the capacitors now pay for themselves every two months in increased production. Total return—633% a year!

If low or varying voltage is slowing down *your* production, G-E capacitors may be your answer, too. If you have a power-factor or kva-demand clause in your power contract, they may give you substantial savings in power costs. They can also provide relief for overloaded feeders, transformers or switchgear. Better check with your nearest G-E representative today.



A NEW BOOKLET explains how capacitors work and gives specific data to show you what you may expect from them. Write today for Bulletin GEA-5167. Address Section 407-183, Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

For other power distribution ideas that will save you money, ask your electric utility to show you the full-color slide-film, "Modern Industrial Power Distribution," or contact your G-E representative.

GENERAL ELECTRIC

donation, created for the purpose of encouraging the industrial development of a community by providing services of a financial nature to new or established industry." By industry, it means manufacturing enterprises only.

• **Evidence of Interest**—The very existence of a foundation is attractive to new industries, aside from the material help it may give. Many businessmen who have no need or desire to accept outside help feel that the fact that there is a foundation is evidence that their companies will be welcomed and be given loyal support by the community. For example:

A city in Oklahoma was asked to buy $250,000 worth of stock in a company to help finance a new plant. The citizens subscribed to this amount of stock at a single public meeting—and the company went ahead with its new building. Before it was completely built, however, the company called in the stock certificates and refunded the money in full. Explanation: Company officials just wanted to be sure the citizens really wanted the plant located in their city.

• **Mushrooming Payrolls**—The real purpose of any foundation is to boost the payrolls in its community. The business thus created amounts to a lot more than just the actual size of the new payroll. Every new factory worker helps give employment to other workers—in retail stores, restuarants, and other service trades. These workers, in turn, spend a good part of their pay in the community.

Studies show that 10 manufacturing jobs will maintain about eight service jobs in a typical industrial city—and that manufacturing-payroll money will create business to the extent of 2½ to 3¼ times the size of the payrolls themselves.

• **New and Old**—All 70 of the foundations analyzed in the Tulsa report stand ready to help new industries get started. In addition, 80% will assist established local industry to expand, and thus create new jobs.

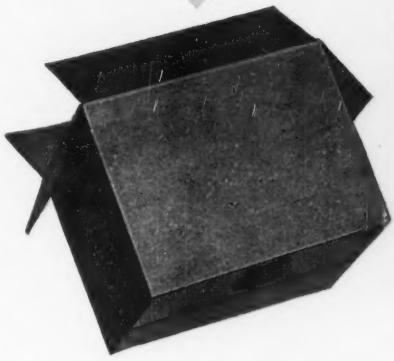
Among the foundations less than five years old, 84% have already located at least one new plant in their communities. All but one of the older groups have brought in at least one new plant.

• **Results**—The results in terms of new payrolls vary widely. The Greater Muskegon (Mich.) Industrial Foundation has added an estimated $46-million in annual payrolls during its 28 years. The Marquand (Mo.) Development Corp. added one plant, with a payroll of $150,000 a year, to that town of only 600 people. Scranton's foundation, in existence for only three years, has brought in seven new industries and helped four old ones. Total new annual payroll: $6.9-million.

There are some that have not done well, of course. An example: The 20-

Experienced buyers look at the Pedigree

buyers of boxes, too



THE COCKER SPANIEL, American member of a family that traces back to the 14th century, is still a great favorite with sportsmen. Cockers are said to be so named because they were first used in hunting woodcocks. Affectionate and merry, they are perfect family pets.

FOR ASSURANCE OF *Quality*
FOR ASSURANCE OF *Service*
FOR ASSURANCE OF *Fair Price*

MOST corrugated containers *look* alike. But the difference shows up in performance.

The famous Union shield trade-mark is your assurance that every step in making the box, from the forest to the finishing room, is handled by trained personnel in the largest Kraft pulp-to-container plant in the world.

It symbolizes seventy-five years of leadership in designing, engineering and producing paper packages . . . plus long experience as one of the nation's larger producers of Kraft container board.

You can rely on Union shield-marked boxes to give you quality and service at a fair price—not only this year but for years to come!

UNION *Corrugated Containers*

UNION BAG & *Paper Corporation*

Principal Offices: WOOLWORTH BLDG., NEW YORK 7, N. Y.

***Corrugated Container Plants:* SAVANNAH, GA. • CHICAGO, ILL. • TRENTON, N. J.**

year-old foundation in Muskogee, Okla., has brought in just one new industry, boosted the city's annual payrolls by $250,000.

• **Aid Varies**—It isn't always the smaller company that gets aid from a foundation. Among the well-known concerns that have been helped by foundations are Armstrong Cork Co., Dixie Cup Co., Glidden Co., Linde Air Products Co., Remington Rand, Inc., Electric Auto-Lite Co., International Shoe Co., Reynolds Metals Co., Container Corp.

The help offered by foundations is primarily of three types:

(1) Buying, developing, and selling industrial sites;

(2) Buying or building plants for lease or sale;

(3) Providing money for loans.

• **Land Problem**—The greatest obstacle many cities face in attracting new industry is availability of suitable land. Many a community has practically sold a company on its advantages, only to find that it could not locate an acceptable site at a reasonable price.

Many foundations have hurdled this obstacle by buying attractive industrial tracts in advance, and holding them for possible new companies. They are thus in a position to quote attractive prices immediately when a prospect is found.

• **Special Districts**—Several foundations have gone even further, setting up so-called industrial districts. These are tracts of good industrial land which have been developed to the point where paving, sewers, utilities, grading, trackage—and, in some cases, even multipurpose buildings—are already available. A new company has only to select its improved site in the district.

Of the industrial foundations surveyed, 80% buy and sell real estate. Five began with this purpose alone.

• **Buildings**—Some 83% of the foundations are willing to erect new buildings for lease to new industry. Only 64% will build for sale. Often, however, a lease will provide for amortization of building cost by the company, or for option to purchase.

A lease arrangement is valuable to both the foundation and the company. By renting instead of building or buying, the company need not sink a large sum into fixed assets. And it can charge off rental payments as operating expense. For the foundation, a lease provides it with return on its capital.

• **Loans**—One-third of the foundations surveyed are willing to lend money outright to manufacturers. Funds loaned to new industry are usually for the purpose of buying land or buildings. Loans to established companies are primarily used for buying new equipment, for refinancing, or to supplement working capital.

Several methods are used by the foundations to protect these loans. Most usual is a first mortgage on the land, buildings, or machinery. Several of the foundations insist on having a representative on the company's board of directors.

A few of the foundations are willing to buy stock instead of lending money. One advantage of this method: The value of the stock rises as the business prospers. Disadvantages: Funds are tied up longer than if the money had been loaned; if the company fails, creditors' claims are senior to those of the stockholders.

• **Subsidy**—Some of the foundations are willing to give subsidies of one sort or another to attract new industry. Types of subsidy offered in order of importance, are: free land; tax exemption; free use of buildings; and free utilities. Tax exemption usually refers only to local taxes, but at least two states—Arkansas and Louisiana—offer state property-tax exemption.

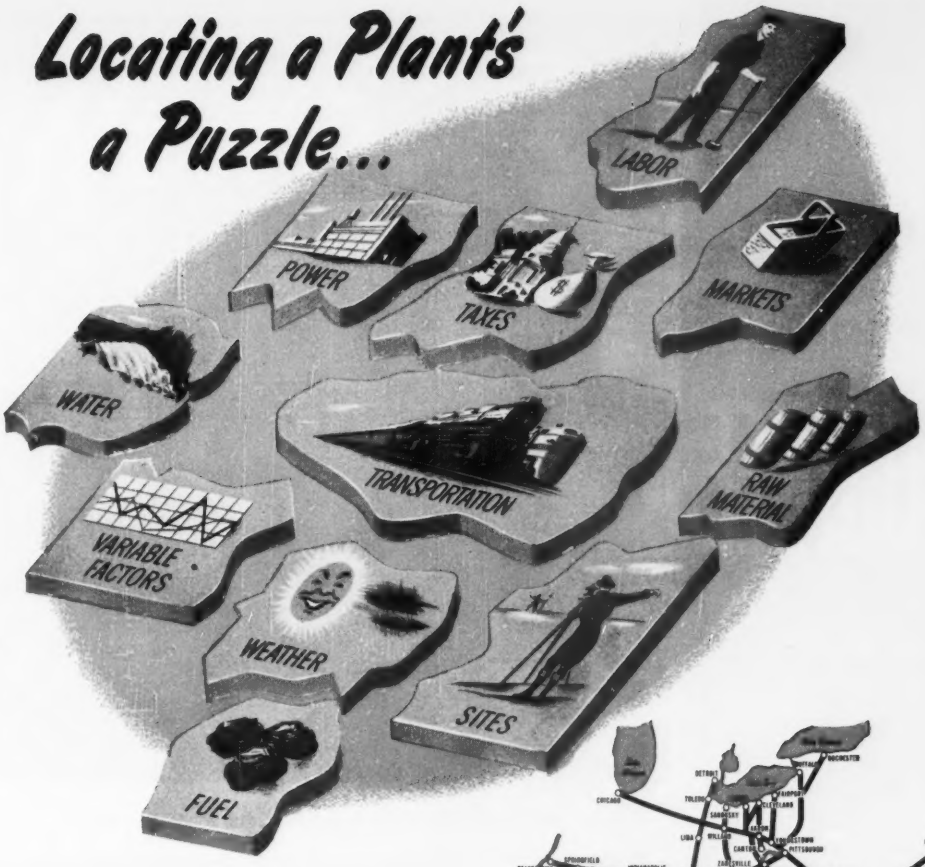
An example of how the subsidy sometimes works: Ansco Division of General Aniline & Film Corp. needed property on which to expand in Binghamton,

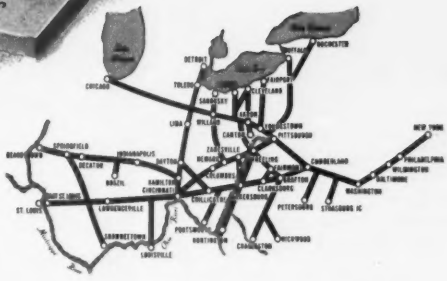
The 70 Foundations

The Tulsa Chamber of Commerce based its survey on 70 industrial foundations. Here are the cities in which they are located:

Alliance, Neb.	La Crosse, Wis.
Amarillo, Tex.	La Junta, Colo.
Ashtabula, Ohio	Louisville, Ky.
Austin, Tex.	Macon, Ga.
Batesville, Ark.	Marceline, Mo.
Bald Knob, Ark.	Marietta, Ga.
Binghamton, N. Y.	Marquand, Mo.
Bowling Green, Mo.	Marshall, Tex.
Brownwood, Tex.	McAlester, Okla.
Carrollton, Mo.	McMinnville, Tenn.
Charleston, S. C.	Muskegon, Mich.
Chickasha, Okla.	Muskogee, Okla.
Claremore, Okla.	Newport, Ark.
Conneaut, Ohio	Ogden, Utah
Covington, Tenn.	Oklahoma City, Okla.
Crocker, Mo.	Olympia, Wash.
Cuba, Mo.	Pawhuska, Okla.
Cushing, Okla.	Pine Bluff, Ark.
Danville, Ill.	Portsmouth, Va.
Dubuque, Iowa	Salisbury, Mo.
Dunlap, Tenn.	San Angelo, Tex.
Elmira, N. Y.	Scranton, Pa.
Fargo, N. D.	Shawnee, Okla.
Fayetteville, Ark.	Sherman, Tex.
Fond du Lac, Wis	Somerville, Tenn.
Fort Smith, Ark.	St. Cloud, Minn.
Gary, Ind.	St. Joseph, Mo.
Genoa, Ohio	Topeka, Kan.
Grand Rapids, Mich.	Tyler, Tex.
Greeneville, Tenn.	Walnut Ridge, Ark.
Hazelton, Pa.	Warrenton, Ga.
Holdenville, Okla.	Wausau, Wis.
Hominy, Okla.	Waycross, Ga.
Hopkinsville, Ky.	Wheeling, W. Va.
Houston, Mo.	Wichita Falls, Tex.

Locating a Plant's a Puzzle...





. . . but B & O's Industrial Development staff can solve it *in confidence— without obligation!*

Only a specially trained staff can thoroughly coordinate plant location factors; that's why business leaders consult us.

They're sold on B&O territory . . . for here is the lion's share of those factors needed to make any plant a success.

Tell us *your* requirements; we'll submit a *custom-made study* that will solve *your* plant location puzzle!

Ask our man!

Industrial Development representatives are located at:

NEW YORK 4, N. Y.
BALTIMORE 1, MD.
PITTSBURGH 22, PA.
CINCINNATI 2, OHIO
CHICAGO 7, ILL.

BALTIMORE & OHIO RAILROAD

Constantly *doing things* — better!

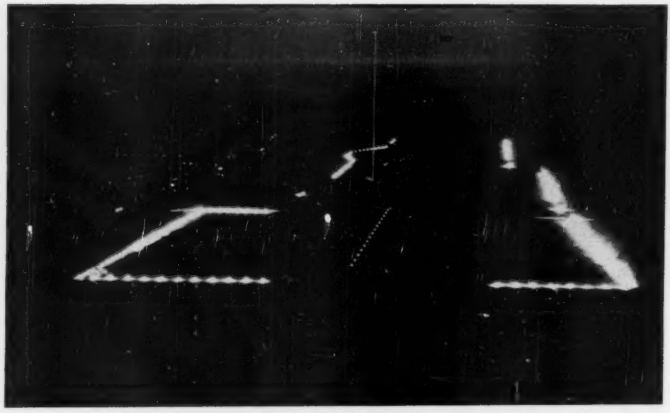
N. Y. The company and the property-owner were unable to get together on the price. So the Binghamton foundation—New Industries for Binghamton—put up the difference.

• **Capital**—Capitalization of foundations has no relation to the size of the cities in which they are located. Total paid-in capital of the 66 foundations that reported on this point is $8,276,300. Amounts vary from $1,004 (in Scranton, Pa., a city of almost 150,000 population) to $1.2-million (in Wheeling, W. Va., with 65,000 population).

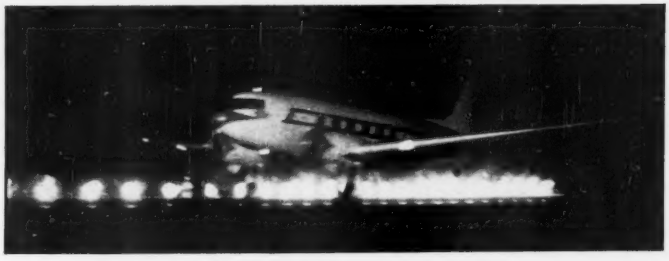
Capital is sometimes obtained by soliciting everyone in the community; sometimes by asking only a selected list of businessmen (chamber of commerce members for instance).

• **Profits**—About three-quarters of the foundations surveyed are nonprofit corporations. Stockholders get their benefits only indirectly—through increased business due to new payrolls in the community. Any income realized is plowed back—which permits a wider scope for operations without the need for a new campaign for funds.

Members of 11 of the foundations expect dividends on their investments. Only three, however—all founded within the past three years—have declared dividends—Batesville, Ark.; Charleston, S. C.; and Genoa, Ohio.



New Los Angeles FIDO Guides Planes to . . .



. . . Safe Landings in the Fog

The first commercial FIDO (Fog Intensive, Dispersal Of) system in the U. S. went into operation last week at Los Angeles' Municipal Airport. The $842,000 system is a much-refined version of the one the British used during the war to guide bombers into fog-shrouded fields. Built by Todd Shipyards Corp. and Bechtel Corp., it was financed by the federal airport program and the Los Angeles Dept. of Airports. The city's share of the cost, and operation and maintenance, will be paid for by the five airlines that use the airport. The system burns diesel oil in 392 "triad" frames connected by pipe along the main runway. Electrical igniters touch off the fire in each triad. Technicians say a 400-ft. ceiling and a visibility of ¾ mi. can be burned into fog in 2 min. Cost of the treatment (for a 50-passenger plane): about $1.50 a passenger. That compares with $8 to $10 a passenger when fog forces a plane to go on to an alternate field like Palmdale, 100 mi. to the northeast.

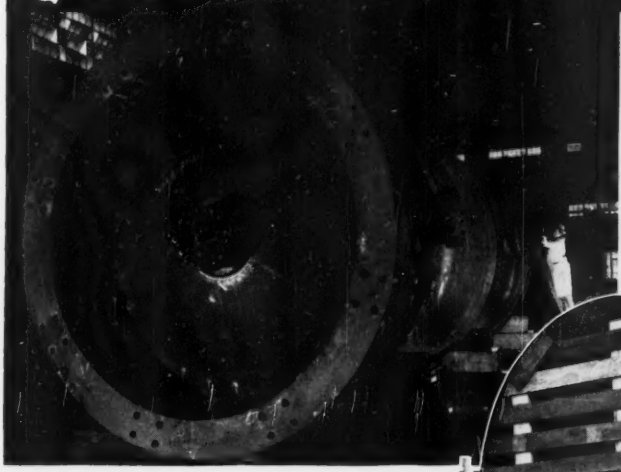
VESSEL DIVISION

NEWS

A. O. SMITH Corporation

75th ANNIVERSARY 1874 1949

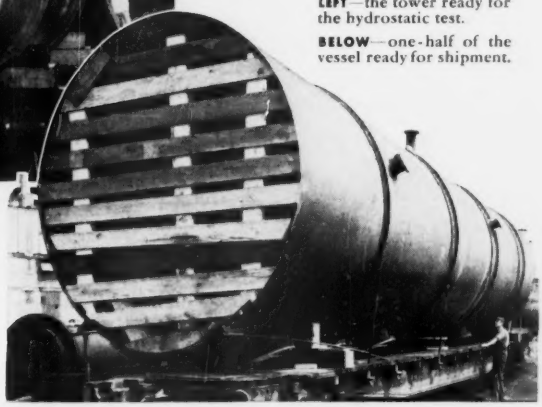
New York 17 • Philadelphia 5 • Pittsburgh 19 • Atlanta 3 • Chicago 4
Tulsa 3 • Houston 2 • Seattle 1 • Los Angeles 14
International Division · Milwaukee 1



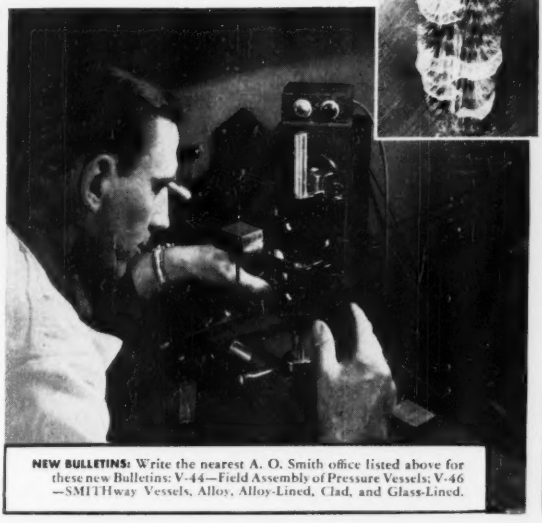
A. O. SMITH TAKES THE GUESS WORK OUT OF FIELD ASSEMBLY. Railroad shipping restrictions made it necessary to field-assemble this 11½ ft. dia. x 116 ft. long SMITHlined Fractionating Tower. To insure ease of assembly in the field, it was first manufactured and completely assembled in the A. O. Smith Milwaukee Plant, then hydrostatically tested, cut in two at the center girth seam, rescarfed for welding in the field, and shipped. Field-assembly costs were cut to a minimum with only one girth seam to be welded.

LEFT—the tower ready for the hydrostatic test.

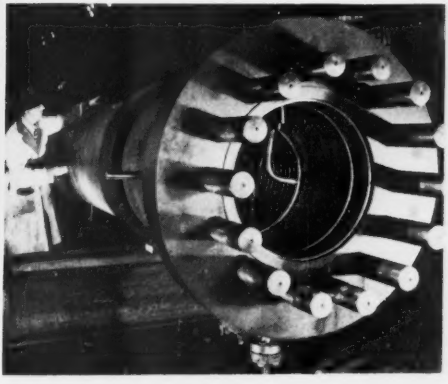
BELOW—one-half of the vessel ready for shipment.



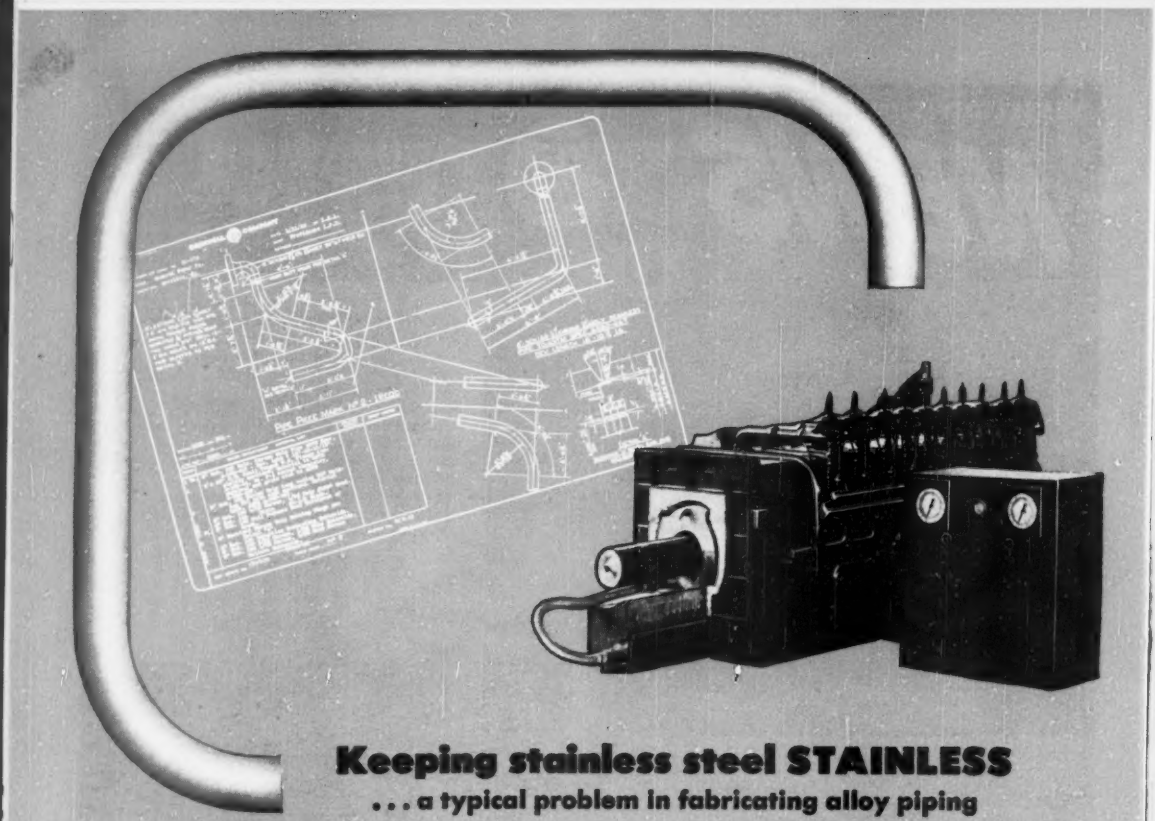
MANY TESTS BEYOND CODE REQUIREMENTS are a regular part of A. O. Smith vessel production control procedures. Here Bill Poehlman, a 20-year veteran, in charge of spectroscopy and X-Ray research, checks the deposited weld metal composition in a vessel test plate, by means of an A. O. Smith-developed microspectrographic technique.



IN STOCKHOLM, SWEDEN, they know about the famous SMITHway welded Multi-Layer vessel construction. Here is one of two SMITHway Inconel-lined Multi-Layer Autoclaves for fatty acid service, with a shell thickness of 5 inches and an operating pressure of over 5,000 psi. This vessel was shipped direct by ocean-going ship from Milwaukee to Stockholm.



NEW BULLETINS: Write the nearest A. O. Smith office listed above for these new Bulletins: V-44—Field Assembly of Pressure Vessels; V-46—SMITHway Vessels, Alloy, Alloy-Lined, Clad, and Glass-Lined.



Keeping stainless steel STAINLESS

. . . a typical problem in fabricating alloy piping

Heat a piece of stainless steel pipe to bend it and right away you're up to your ears in metallurgical complications. To begin with, stainless steel isn't just one alloy. There are hundreds of different types of stainless steel, each selected for its resistance to corrosion or its stability at high temperatures. To maintain the metallurgical properties which dictate the choice of a particular alloy steel, you have to know the temperature range within which this steel may suffer excessive metallurgical changes. And you have to have specialized equipment to maintain the precise control necessary to avoid these hazards.

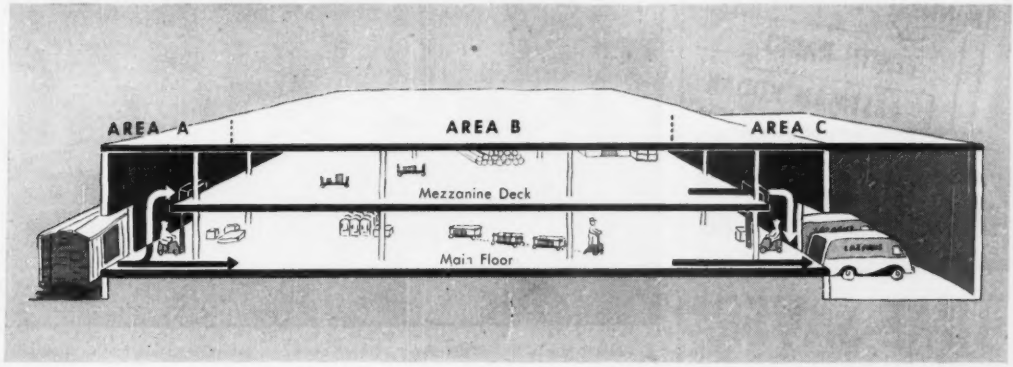
Grinnell pipe fabrication equipment includes specially designed gas-fired radiant heat furnaces for this precisely controlled heat treatment of stainless steels and other alloy steels. Multiple burners are strategically located to distribute temperature uniformly and to prevent harmful flame impingement. Precision instruments regulate temperature and time.

It's an intricate business . . . fabricating alloy steel piping. It's a job for Grinnell prefabricating plants because Grinnell has the equipment and modern methods, the interpretive engineering, the metallurgical research facilities and the skilled personnel.

99 YEARS PIPING

GRINNELL

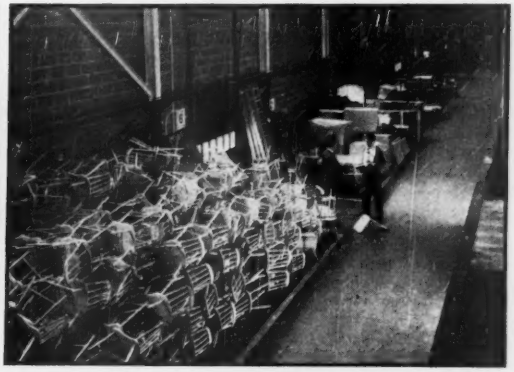
Grinnell Company, Inc., Providence 1, Rhode Island. Branches: Atlanta • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno • Kansas City • Houston Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane



1 Minimum movement and maximum flexibility are what F. & R. Lazarus Co. aimed at in its new bulk service building in Columbus, Ohio. Incoming goods are readied for delivery in Area A, stored in Area B. In Area C, they're loaded on delivery trucks

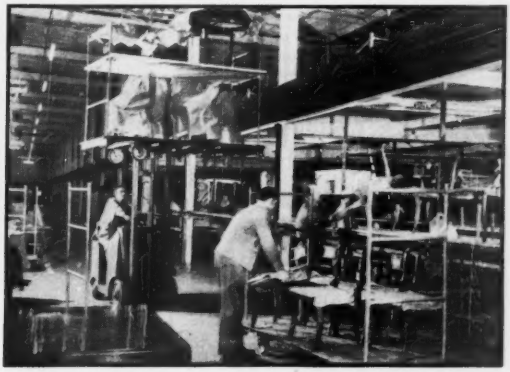
How Lazarus Cuts Handling Costs

2 Trucks and railroad cars unload through 13 receiving doors on one side of the building. Cargo moves immediately to . . .

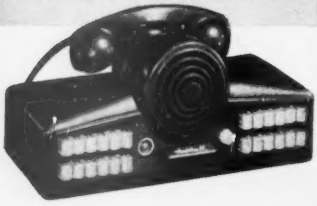


3 Area A, where inspection and processing start. These chairs were faulty, were shunted into "hold" area for disposition

4 Workers uncrate goods and prepare them for delivery to customers in Area A before the merchandise goes into storage

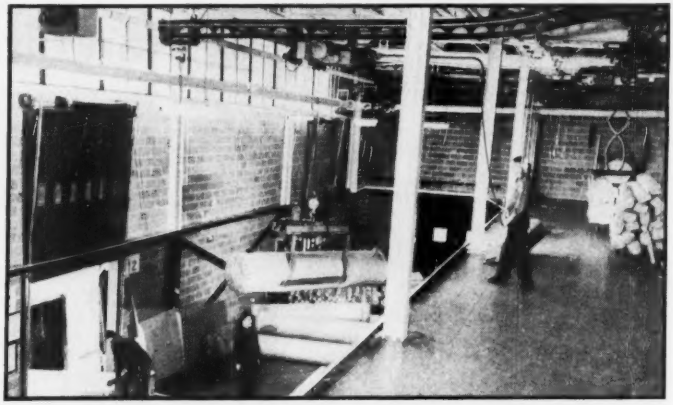


5 Lighter goods are hoisted on "floats" to the mezzanine deck. Lift trucks, not elevators, are used (TURN TO PAGE 40)

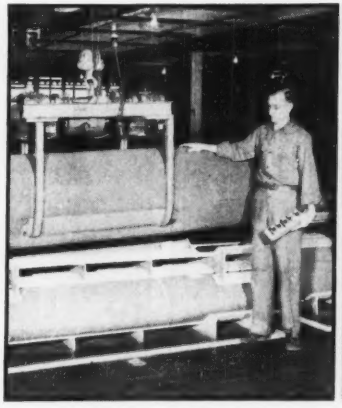


LAZARUS (continued from page 39)

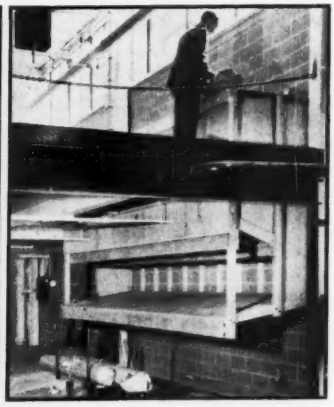
6 Heavy goods, like refrigerators, washing machines, and stoves, ride to the appropriate storage area on individual dollies. Already processed, the equipment is set for immediate delivery to customers along any of Lazarus' numerous truck routes



7 Rugs and carpets get special handling. An overhead hoist lifts them from the main floor, carries them on a monorail trolley into Area B, where they're held in the . . .



8 Carpet storage area. When a customer buys carpeting, it's cut to size, wrapped with its floor pad, and sent down a . . .



9 Chute to Area C. Merchandise is sorted according to the delivery route nearest the customer (TURN TO PAGE 42)

The Economic Stability Bill of 1949

Anti-Inflation or Anti-Free Enterprise?

When the President first placed his anti-inflationary proposals before Congress more than a year ago, there was serious concern in many quarters lest the emergency program become the entering wedge in a campaign to subject the economic life of the United States to a set of governmental controls and restrictions such as the nation had never thought of tolerating in time of peace. The nature of the legislation that has been proposed to the new Congress, and the circumstances under which it has been offered, have certainly not been such as to allay that concern. The President's principal non-monetary recommendations are embodied in a bill entitled the "Economic Stability Act of 1949." Enactment of this bill would confer upon the Federal Administration powers comparable with those exercised during the war and would be one of the longest strides away from free enterprise ever taken in this country.

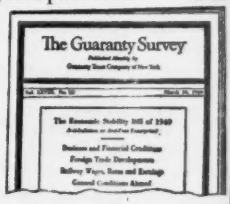
Not the least ominous thing about the bill is the fact that it has been strongly urged by Government officials at a time when inflationary tendencies are visibly waning. The price level has been falling for about six months, and the general average is lower than it was a year ago. Industry after industry reports a transition toward a "buyer's market", and many minor curtailments of output and layoffs of workers have occurred.

It is against this background that the proposed legislation must be judged. If the sweeping extension of Federal power is requested as a drastic but unfortunately necessary emergency measure, it seems clear that there is no present emergency to justify such a step. If the plan has a deeper and more lasting significance—if it is intended as an implementation of an "established national policy" and the expression of a political philosophy that would make government responsible for the volume and direction of the people's industrial activity —then it is an insidious and dangerous threat to the economic life of the nation.

If the supposedly temporary character of the bill and the statements of some of its supporters that it is intended as nothing more than an emergency anti-inflationary device could be taken at their face value, the plan might be criticized as unnecessary and useless, but it would present no grave menace to the American economy. For several reasons, it would be dangerous to place too much reliance on such assurances. First, experience has shown that bureaucratic agencies and devices tend to perpetuate themselves. Second, it appears that many influential Government officials have a deep distrust of the self-impelling and self-regulating capacity, as well as the social adequacy, of our free-enterprise system. Finally, the operation of the proposed controls would tend strongly to prevent necessary readjustments and thus prolong the apparent need for the controls.

The proposed program is socialistic, not because it is intended to be so but because it is based on a misconception of the nature and requirements of a free-enterprise system. It is socialistic because it would cripple both the motive power and the self-regulating character of the system. First by weakening economic incentives, then by preventing normal price adjustments, and finally by empowering the Government to step in and fill the gaps that private enterprise had been prevented from filling, the program would lay a straight path from economic freedom to economic regimentation. If the American people, through their elected representatives, were deliberately choosing that path, they would of course be quite within their rights. The danger is that they will allow economic errors and fallacies to lead them blindly along that path until it is too late to turn back.

—From an article in the current issue of THE GUARANTY SURVEY, *monthly review of business and economic conditions published by Guaranty Trust Company of New York, available to executives on request.*

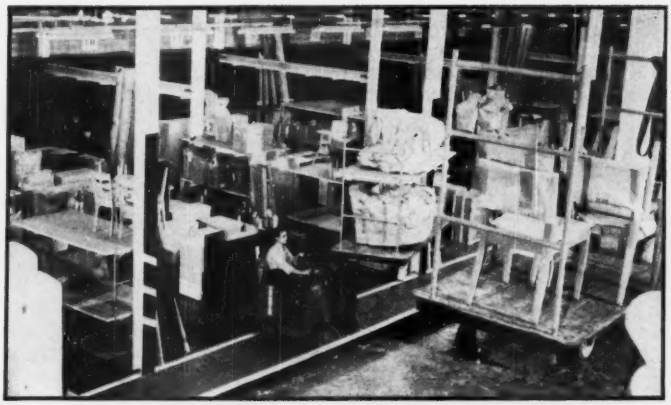


Guaranty Trust Company of New York

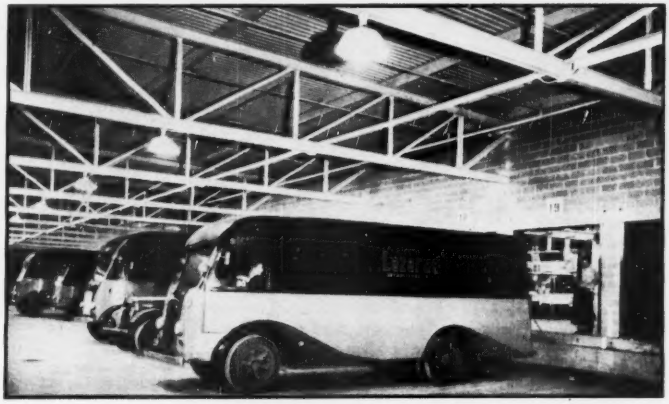
Capital Funds, $366,000,000

140 Broadway	Fifth Ave. at 44th St.	Madison Ave. at 60th St.	Rockefeller Plaza at 50th St.	London	Paris
New York 15	New York 18	New York 21	New York 20	Brussels	

LAZARUS (continued from page 40)



10 Other goods arrive at the loading area from the mezzanine by means of fork lifts. A Lazarus employee called a "customer's representative" inspects all outgoing shipments



11 Lazarus' truck fleet loads at 22 delivery docks. The number of each dock corresponds to one of the trading-area truck routes through the city and suburbs of greater Columbus

Faster Hard-Goods Handling

F. & R. Lazarus Co.'s $1.5-million bulk service building in Columbus uses new techniques to cut handling, lower damage on department-store wares. It may be model for others.

Every time you move a piece of merchandise, there's a chance it may be scratched, broken, or soiled. Even if you don't damage it, every move costs money; someone has to do the moving.

That's why F. & R. Lazarus Co., big Columbus (Ohio) department store, spent about $1.5-million to build a new bulk service building. The new building, a mile from the main store, handles storage and service of items ranging from tricycles to television sets.

• **Tested**—The company has already tested its building for several months. Here's what store president Robert Lazarus says on the basis of this experience: "We know this way of handling bulk merchandise is vastly simpler, speedier, and more economical."

Next week Lazarus will open the building officially. Most of the store's suppliers will be on hand to see what happens to the goods they make, once they arrive in Columbus.

• **Why They Built It**—Lazarus—and its parent chain, Federated Department Stores, Inc.—decided to develop the

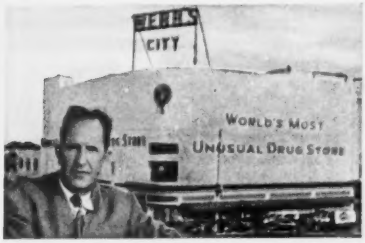
"DOC" WEBB'S

Smart idea!

He uses girls, circuses, spectacular promotions, bargains, to gross $15,000,000 in a drugstore!

BEAUTIFUL GIRLS like Miss Janet Crockett, one of "Doc" Webb's nationally publicized "Florida Poster Girls," help stimulate drugstore sales volume.

"THE WORLD'S MOST UNUSUAL DRUGSTORE" sprawls over three city blocks in St. Petersburg, Florida. Guiding genius is Ford Truck user, J. E. "Doc" Webb. He built a hole-in-the-wall pharmacy into a $15,000,000 corporation in 23 years. Uninhibited promotion stunts have brought country-wide fame. Milking rattlesnakes . . . treasure-hunt sales with ladies' panties selling at the cigar counter and bed sheets at the soda fountain . . . one-dollar bills going for 95¢, subsequently re-purchased at $1.35, are typical Webb promotions. Circuses and vaudeville are standard fare. This exploitation is backed by a smooth-working selling operation and a fleet of trucks, five of which are Fords.

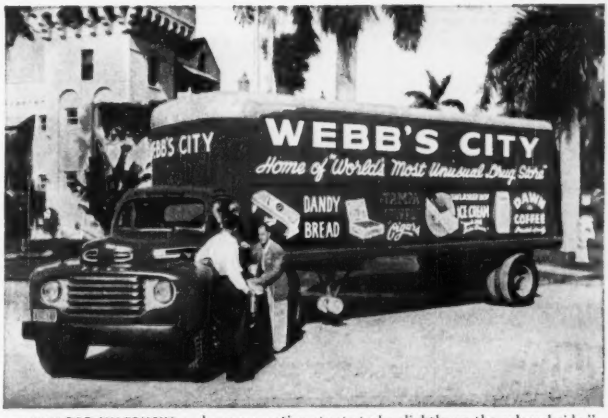


"DOC" WEBB POSES in front of what was only a cut-rate pharmacy 23 years ago. Here "Doc" pulls such attention-getting sales-stimulating gags as displaying a scarf of Lincoln, worn when he was shot in Ford's Theater.

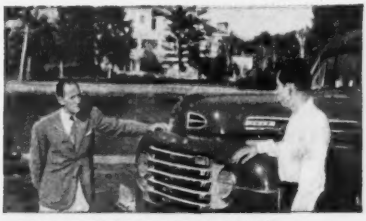
"DOC" WEBB'S

Smart move!

He uses five Ford Bonus Built Trucks to do hauling in his business. Smart Move! Smart Business!



"I LIKE FOR MY TRUCKS and my promotion stunts to be slightly on the colossal side," "Doc" Webb tells Ford Dealer, Bill Grant, Jr., "that's why I got myself a new 145-horsepower Big Job." Replies Dealer Grant, "That was a smart move, 'Doc'! And you can bet that your new Ford Big Job will stand up and deliver. It's Bonus Built . . . built stronger to last longer, same as the 139-plus other models in the Ford Truck line."



"THE 145-HORSEPOWER V-8 ENGINE is a powerhouse on wheels," Dealer Bill Grant, Jr., tells "Doc" Webb. "It's got lots of important features like concentric dual-throat carburetor, hard, alloy-faced exhaust valves, etc.

"YOU SAVE 20% of your engine revolutions in overdrive with this 5-speed transmission. Fewer revolutions improve gasoline economy, prolong engine life. This transmission is standard in the Ford F-7 Big Job; it costs you nothing extra."

"DOC" WEBB'S

Smart bet!

FORD TRUCKS LAST LONGER!

Using registration data

on 5,444,000 trucks, life insurance experts prove Ford Trucks last longer!

ELIMINATES COSTLY CORROSION PROBLEM

Textile Manufacturer Changes to a "Job Proved" Sun Processing Oil and Cuts Production Costs

A manufacturer of cotton fabrics was having corrosion trouble on his textile machines. It resulted from the use of an expensive processing oil. Moreover, the oil had to be sprayed on the fibres by special rented equipment.

Changing to a "Job Proved" Sun processing oil, the manufacturer not only licked the corrosion problem, but was able to replace the rented equipment with low-cost, standard atomizing machines. In addition, there was a saving of $2,000 in two years on the cost of oil.

This is typical of the service rendered and the savings made possible in many different kinds of industrial plants where Sun petroleum products are used. In one year, an automobile manufacturer saved $1,440 by adopting Sun Tableway Lubricant on the slides of machine tools... a paper mill adopted an adhesive Sun grease that didn't drip, estimated a $2,900 saving in labor and cleaning costs... a coal mine saved $1,664 by changing to a Sun waterproof grease for mechanical loaders.

To get the latest information about Sun "Job Proved" products for your industry, call the nearest Sun Office, or write Department BW-4

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SUN PETROLEUM PRODUCTS

"JOB PROVED" IN INDUSTRY

SUNOCO

new building after some elaborate handling-cost studies. Store officials found, for example, that 90% of the merchandise used in window and floor displays had to be reprocessed or touched up before it could be delivered.

And with four relatively small warehouses in separate locations, the company found it plenty tough, to keep track of all its stored merchandise.

To devise a building that would cut handling costs to a minimum, Lazarus went to Cleveland's Austin Co. Most of Austin's experience had been in the field of industrial engineering and building. But Lazarus figured—and Austin agreed—that some industrial-handling techniques might be the answer to the problem of handling consumer goods.

• **What They Built**—The result of their joint thinking is a long, low building which has 265,000 sq. ft. of storage space. Of this, 165,000 sq. ft. are on the main floor, 100,000 sq. ft. on a mezzanine deck. All goods move across the width, rather than the length, of the building in going from incoming trucks to the store's own delivery system; no merchandise moves more than 242 ft.

The new building has two features that Stanley H. Cowell, Austin's construction supervisor, believes give it maximum flexibility:

(1) It has no conventional elevators;

(2) It is designed without interior partitions.

Lazarus uses fork-lift trucks which actually take the "elevator" to the merchandise, instead of vice versa.

The absence of interior partitions means storage areas can be adjusted in size to meet seasonal conditions.

• **Merchandise Flow**—All merchandise from freight cars or motor trucks moves onto one of 13 docks. In many stores, reserve stocks of bulk merchandise go directly into storage, still in crates or cartons. In Lazarus' new building the merchandise is immediately uncrated, inspected, and readied for delivery to the customer. Then it's moved into storage.

This way, says vice-president Charles Y. Lazarus, the customer can get immediate delivery on her purchase. Preprocessing also lets management know at once if any of the merchandise is faulty. If it is, the store can catch it before it moves into storage, hold it for repairs, or for return to the manufacturer.

• **Traveling Repair Shop**—Another example of the lengths to which Lazarus goes to cut down the movement of goods: Several departments use "touch-up" carts, which bring the repair shop to the merchandise, rather than the reverse.

Heavy goods—stoves and refrigerators—are put on special dollies as soon as they're unpacked. Then, after inspec-

tion, they're towed to the storage area.

Lighter goods are put on four-wheeled "floats." They are either towed to storage on the main floor or hoisted—by fork-lift—to the mezzanine deck.

Rugs and carpeting are the only mezzanine-deck items that don't ride on fork-lifts. A special overhead hoist, which moves on a monorail trolley, lifts them.

• **Some Stays Crated**—Actually, not all merchandise is uncrated before it's stored. Here is the sort of thing usually left in the carton: seasonal items (bicycles, for example), and merchandise that takes up much more space when assembled than when crated (porch gliders). Only about 10% of these items are uncrated, although more may be readied during the peak sales season. The rest of the merchandise is inspected for carton damage and stowed on shelves.

These shelves, incidentally, are another example of the building's flexibility: They can be adjusted to any height; they can be removed to store a different type of merchandise.

• **Deliveries**—Lazarus' customers make their selections from floor samples in the main store. Deliveries are made from the bulk service building.

The goods move to the customer in much the same way that merchandise comes into the building—except that there isn't any processing. Fork-lifts bring merchandise-laden floats down from the mezzanine deck; small gasoline tractors pull the main-floor goods to the delivery area. Rugs drop down a special chute.

Each of the store's 22 truck routes through Greater Columbus starts from a numbered door in the delivery area. Merchandise from storage is sorted according to its routing. In the late afternoon, the trucks come in from delivering, pick up their loads for the next day.

• **How Big a Saving**—The store won't really know how much the building saves in handling costs until it has been in operation for some time. Right now, executives figure the system cuts the cost of moving a 300-ft. roll of broadloom carpeting, from point of receipt to storage, from $8.12 to 96¢. For an average electric range, the old figure was 96¢; now it's 32¢. These figures, of course, are still highly theoretical; the Lazarus people point out that they don't include the cost of the building.

Lazarus expects the building to pay off in other ways, too. By improving customer service, for example, you cut down the number of complaints. This doesn't show up on the building's operating-cost statement, but it means dollars and cents to the company.

• **Second Experiment**—Actually, the new Lazarus building is Federated Department Stores' second experiment in streamlining store methods. In the first project—Foley's department store in Houston, Tex.—it tackled the problem of store interiors (BW—Oct.18'47,p50). Foley's has become Federated's testing ground for modern store techniques. Many of the methods developed there have already been adopted by other Federated stores.

The new bulk service building is Federated's big experiment in warehousing. As the parent-company president, Fred Lazarus, Jr., puts it: "In the past, we have tried to handle bulk merchandise in buildings not specifically designed for it. Besides the time-consuming inconvenience of this moving around, we've damaged merchandise—lots of it—because most of it isn't designed for a life of travel."

• **Model Setup**—If this new experiment proves successful, the building will probably become the model for many other Federated stores, as well as for competitors.

But, though the building may solve the Lazarus Co.'s storage and service problems, it won't necessarily be the answer for every store. In New York City, for example, the building probably wouldn't be practical; it would cover too much expensive ground. In cities where land is cheaper, however, it may show department-store operators how to get goods to the consumer with a minimum of handling, damage, and expense.

Ice Cubes to Suit

Columbus Molded Plastic Corp., Columbus, Ohio, is making a bid for the home-entertainment market with this novel plastic ice-cube tray. The molds have been shaped into card-suit symbols—hearts, diamonds, clubs, and spades. The company expects the tray to rate aces-high with Mrs. Consumer as a suitable way of providing a novel twist to an evening's diversion.

Who said it costs more to use Stainless Steel?

FAMOUS DRAVO *Counterflo* HEATER

USES STAINLESS TO REDUCE COSTS!

Completely self-contained, automatic in operation, this direct-fired heater provides an entirely new solution to the troublesome problem of plant heating. A "single-package" heating unit that can be positioned anywhere, it supplies heat directly to the area needing it, efficiently and economically. Incidentally, it also proves that using Stainless Steel does not necessarily increase cost, but on the contrary can decrease it.

THE heart of any heater is the combustion chamber. In the original Dravo Heater sold by the thousands to army camps and plants during the war, this chamber was made of corrugated carbon steel lined with refractory cement. Numerous fins and deflectors were welded to its outer surface.

To meet the tremendous civilian demand created by its highly successful war-time service, Dravo engineers recently redesigned the heater to increase its efficiency, to reduce its size and weight, to increase its life span, to make its operation safer. And in order to maintain prices in the face of rising labor and material costs, they took steps to speed up its production and to reduce manufacturing costs. They accomplished these things mainly by building the combustion chamber of Stainless Steel.

By specifying Stainless Steel that withstands temperatures up to 1600°F. they got rid of the troublesome and maintenance-demanding refractory lining. The unlined chamber, with its entire surface now exposed to the flame and gases, greatly increased heat transfer. This made it possible to eliminate fins and deflectors,allowed them to build the chamber smaller (to reduce its heating surface 53% without reducing operational performance) . . . and to reduce its weight 1500 pounds.

In addition, the simplified chamber design obtained by the use of Stainless Steel reduced the number of fabricating operations from 95 to 67. And, even though welding with Stainless requires more care, welding costs too were reduced because only 186 lineal feet of welding were required instead of 400 feet.

● To indicate how U·S·S Stainless Steel might benefit *you* in similar constructions, we recapitulate the benefits Dravo has obtained by using Stainless:—It has enabled them to employ less expensive manufacturing procedures than those used previously. It has insured greater portability for their equipment. It has improved heat transfer and eliminated expensive refractory maintenance. Dravo is now sold on the use of Stainless Steel because, as their engineers report, it has given them tremendous advantages over competition, one of the most important being *lower cost of manufacture.*

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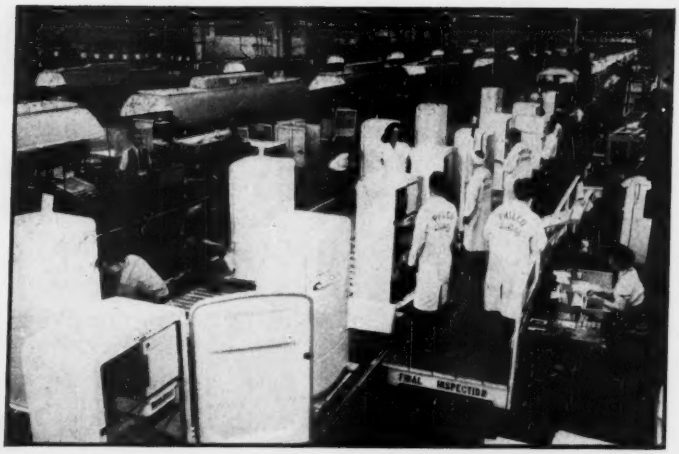


REFRIGERATORS since 1940 have become a major Philco product, while . . .

TELEVISION sets and tubes surpass radio sets in dollar volume. These two . . .

New Lines Pace Philco Growth

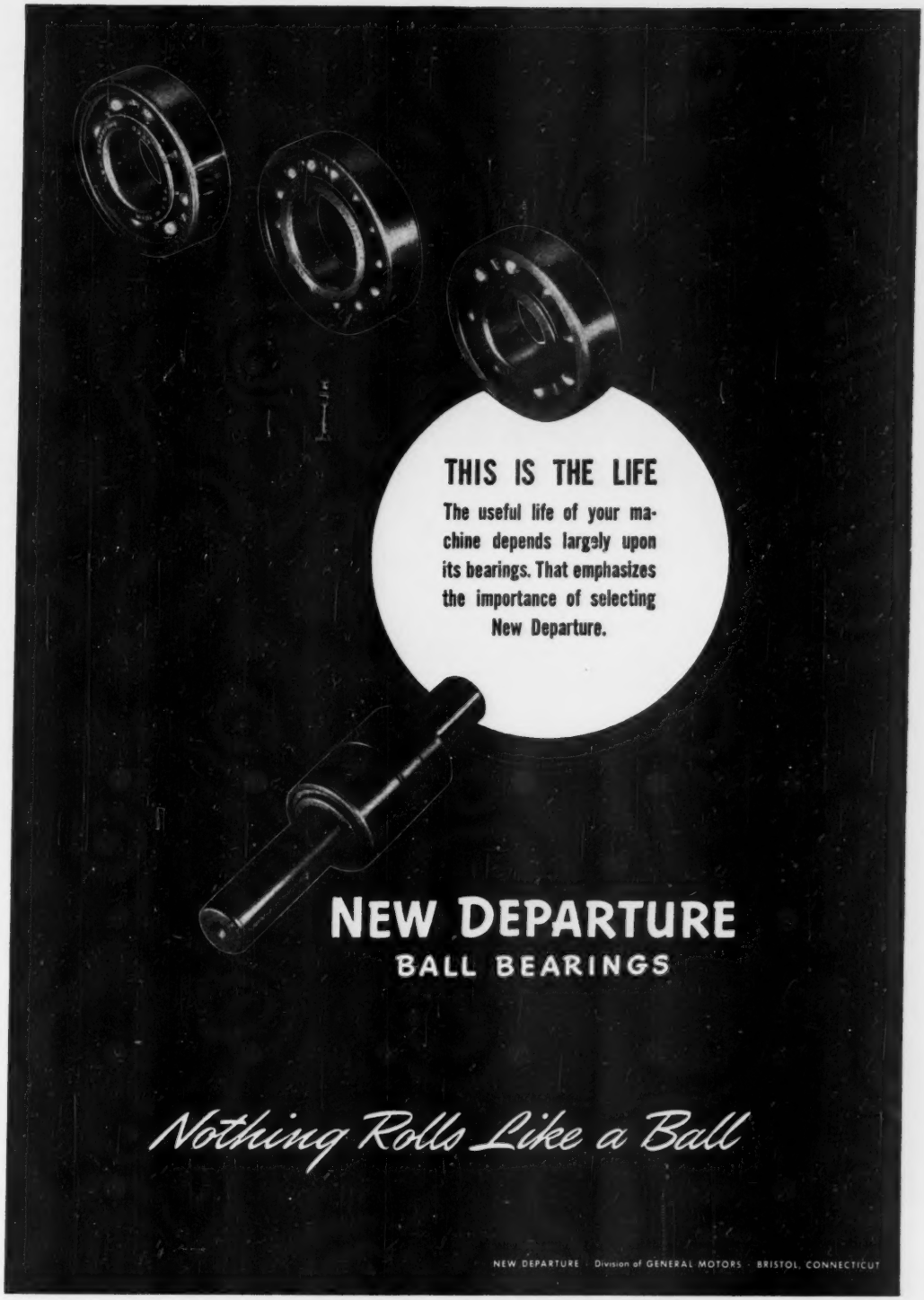
Thanks mainly to its refrigerator division, Philco had its biggest year ever in 1948. That shows where you can get with a trade name, a big sales machine, and shrewd diversification.

Philco Corp.'s 1948 sales record proved a knockout, even for Philco. Total sales, the Philadelphia company reported last week, came to a whopping $275.4-million. That is a $48.9-million increase over 1947, and the best sales volume in the company's history.

Significantly, the greater part of the increase—about $36-million—was due to sales of refrigerators and air-conditioning units.

• **Radio Sales Off**—Philco is, of course, the nation's No. 1 manufacturer of radio receivers. But their importance in the Philco scheme of things is on the wane. In the last quarter of 1948, the dollar volume of television-set production began to overtake that of radio sets.

The division producing TV, radio, and combination sets last year contributed 46% of the company's sales volume. This was a notable decline in percentage from 1947, when the division accounted for 54% of Philco's sales. The division's sales in 1948 came to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$127.3-million, only about $5-million more than in 1947.

Other Philco lines—vacuum tubes, dry batteries, accessories, government business—showed increases, though not so great as the refrigerator division.

• **Trailing the Leaders**—Philco got into refrigerator production a bare eight years ago, which means that it has been hampered since then by a wartime shutdown. Despite that, its refrigerator division has turned in a remarkable sales record. Sales zoomed from 25% ($25.1-million) of the Philco total in 1946, to 40% ($110-million) last year. The 1948 increase in refrigerator sales came to 62%, in air-conditioning sales to 159%. Only freezer sales dropped, because of steel shortages.

In these few years Philco, starting from scratch, has pushed refrigerator sales to a point where they are on Frigidaire's and General Motors' heels. And it has likewise become a leader in the production of single-room air-conditioning equipment and home freezers.

Philco's history is one of well-timed diversification. This helps to explain why the company's main emphasis has shifted in 20 years' time from radio batteries to radios, then to refrigerators and television sets.

• **Other Factors**—There are other important factors as well in Philco's outstanding 1948 performance.

Price cuts are one of them. Philco timed them well, sliced both refrigerator and radio-set prices early last year (BW—Feb.7'48,p10). This was strictly in accord with well-established Philco policy, founded when it was a newcomer to radio-set production 20 years ago; Philco's price cuts then rocked the industry time and again.

Philco is the first to say that advertising was another big factor. Philco's new lines have inherited two decades worth of advertising to establish the Philco trade name. That cost Philco $75-million all told. And last year it continued to splurge on newspaper advertising, backing this up with advertising in other media. That includes such radio shows as Bing Crosby, and the Philco Television Playhouse.

• **Dealers and Distributors**—Philco's highly developed dealer-distributor network was another important factor in last year's success. The company has built this up over the years until it now comprises more than 130 wholesalers and 16,000 dealers. Philco is an old hand at keeping its distributors and dealers happy—particularly when sales need a shot in the arm. On May 27 you will see a typical Philco operation: The Queen of Bermuda will sail for a chartered cruise to Havana, carrying top-selling Philco dealers from New York and Philadelphia as a reward for licking their sales quotas.

Once in a while Philco is just a little

New Power for America

One of a series highlighting the vast expansion program of the electric utility industry

Mid-Atlantic States Spend One Billion for New Power

When you flick a switch and the instant response of electric power lights your home or starts your plant humming, it is hard to realize that this giant servant of your needs could have failed you in a serious way. In fact, had it not been for the foresight and prompt action of the privately-owned electric utilities, postwar America would long since have learned what a real power shortage could do to disrupt all phases of civic and business life.

Fortunately, a forward-looking program of expansion, years in the making, has stemmed the serious threat of power shortage that grew from unprecedented postwar needs.

The Mid-Atlantic States – New York, New Jersey and Pennsylvania–are an apt illustration. Here, in a vast program that will substantially exceed one billion dollars by the end of this year, electric utilities are meeting new demands with new generating, transmission and distributing facilities now in operation, under construction or on order – a practical demonstration of public service.

Combustion's long association with the utility industry – not only in furnishing steam generating equipment but in pioneering technological improvements – finds important expression in this huge Mid-Atlantic program. The extent of this participation is shown by the fact that C-E Steam Generating Units – installed or on order since the war – will serve turbine-generators with a combined capacity of nearly 2,000,000 kilowatts. B-301

Post War Installations of C-E STEAM GENERATING UNITS completed or now in process for Mid-Atlantic Utilities

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Port Jefferson Station
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NEW YORK STATE ELEC. & GAS CORP.
Jennison Station
Hickling Station
Goudey Station

ROCHESTER GAS & ELECTRIC COMPANY
Station No. 3
Russell Station
Lincoln Park Station

PUBLIC SERVICE ELEC. & GAS CO. OF N. J.
Sewaren Station

NEW JERSEY POWER & LIGHT CO.
Gilbert Station

METROPOLITAN EDISON CO.
Titus Station

PENNSYLVANIA POWER & LIGHT CO.
Walnut St. Station

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Richmond Station

COMBUSTION ENGINEERING–SUPERHEATER, INC.

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ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT

over-zealous. Recently the Federal Trade Commission complained about the company's "push money" techniques used to get retail salesmen to sell its products (BW—Jan.22'47,p85).

Another invaluable ingredient in Philco's success last year was its nationwide network of trained service men. This has long been Philco's pride and joy. The company offers free home-study courses, classroom teaching and shopwork, up-to-date manuals. Last year it trained 7,000 men in television servicing and installation—a program that Philco thinks is larger than those throughout all the rest of the industry combined.

• **Young Executives**—Philco also owes much to its ability to attract—and keep—key personnel. Its top-executive staff is a comparatively youthful group. It averages under 44 years of age. Yet the same group averages 18 years of service with the company. Among Philco's lures are (1) a three-year scientific training program carried on with the help of several universities, and (2) generous cash bonuses to executives based on sales. (There's also a profit-sharing program for lower-salaried employees.)

Thanks in large measure to its top-executive staff, Philco escaped getting burned when radio-set prices skidded late last year. In the first nine months of 1948, Philco squirreled away an inventory reserve of $2.1-million out of earnings. It could thus write off year-end inventory losses, at a cost of $1.9-million, and return $200,000 to earnings. It was able to sell its sets at reduced prices—and still bring itself and its distributors out in sound shape.

• **Batteries**—Philco has gone far afield from the time it was started back in 1892 as the Helios Electric Co. with a capital of $12,000. It first turned out a miscellany of electrical goods, then switched over mainly to batteries for autos, trucks, and mine locomotives. In 1906 it became Philadelphia Storage Battery Co.

By 1920, batteries for radio sets had become an important Philco product. Philco introduced longer-lived batteries, battery chargers for the home, then a socket power unit that eliminated the need for high-voltage B batteries. Hanging on to radio's coat tails paid off: In 1927 Philco did the bulk of its $15.4-million business in radio batteries.

• **Radio Sets**—Then a new development in the radio industry put a headlock on Philco: Introduction of the kind of radio you could plug into the wall socket. That finished off radio batteries—and very nearly Philco as well.

But Philco shifted its ground fast, went into low-cost radio-set production on its own. To do this the company officers had to guarantee personally a bank loan of $7-million.

Their gamble paid off, partly because they were willing to experiment. They made Philco a pioneer in the conveyor-belt manufacture of radio sets. Between August and December, 1929, the newcomer sold nearly 400,000 sets; in a year's time it jumped from 26th to second place in the industry—and got out of debt. All this it did at a time when radio-receiver sales were on the skids. (In 1947 it washed its hands of large-scale battery production when it sold its battery division.)

• **Car Radios**—Philco moved into car radios in 1930 by buying out Transitone Co. Shortly afterward it came out with its own model—selling for less than $100—and moved out in front as

VIBRATION TABLE tests whether Philco TV set and carton can stand rough travel

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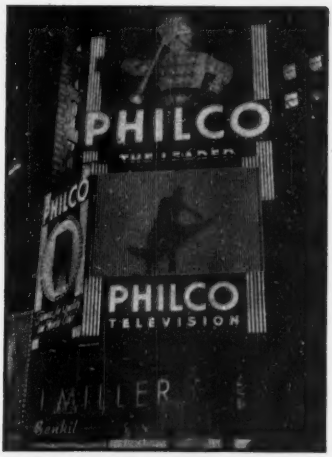

SPECTACULAR in New York's Times Square promotes Philco TV with a drum major four stories high twirling a baton

top U. S. maker of car radios, a spot it still holds. The Transitone deal also brought along Bill Balderston, whose sales territory was Detroit. Last year—Balderston's first as president of the company—saw Philco's auto-radio sales hit a new high.

But after the Transitone deal, Philco was still looking for new fields, spurred by the desire to fill the low spots between the seasonal peaks in production. The answer walked in the door in 1939 when Fairbanks, Morse & Co. offered to sell its entire refrigerator division, lock, stock, and barrel. Philco jumped at the chance. By 1940 it had come up with its own Philco-designed refrigerators, which blazed a new trail: They had horizontal evaporators and frozen-food storage compartments.

• **New Models**—Philco now makes its refrigerators in the 650,000-sq. ft. plant of Atwater Kent, the one-time leader in the radio-set field. Coming off its highly mechanized production lines are Philco's 1949 models. The lower-priced ones have full-width frozen food compartments; all of them provide more room for food in a smaller box.

At just about the same time it went into refrigerators, Philco also decided to change its financial setup and its name. In 1940 the Philadelphia Storage Battery Co. officially took over the name that had long been its hallmark: It became Philco Corp. It also retired its closely held preferred stock, offered its first public issue of common. Working capital in 1939 was $12.6-million; at the war's end, $17-million; last year, $33.3-million.

• **Television**—Television is far from being a postwar development with Philco. In fact, the company got in on the ground floor with television experi-

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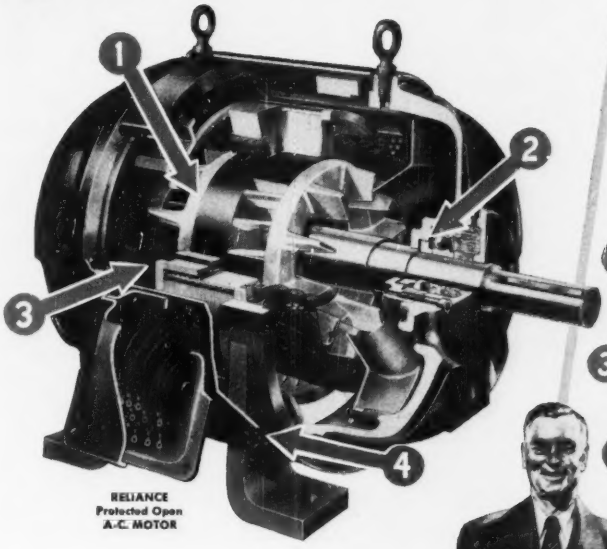

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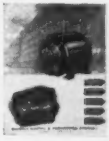

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ments as far back as 1928. In 1932 it went on the air with an experimental license; in 1941 it got the second commercial license in the U. S.—WPTZ, now the local NBC outlet in Philadelphia. (It is now also the part-owner of a local television station in Atlantic City, N. J., and has applied for a license in Bethlehem, Pa.)

Philco claims a number of "firsts" in television. It says that it pioneered with transmitting pictures with 345 scanning lines, 441 lines, finally 525 lines—the standard adopted by the Federal Communications Commission in 1941.

• **Expansion**—Last year Philco turned out some 200,000 TV sets. This year it is geared to produce somewhere between 400,000 and 500,000. It has a new $3-million television plant in Philadelphia and is spending about $1-million to increase the production of TV sets at Sandusky, Ohio. The company also announced a few months ago that it is mechanizing TV-tube production at its Lansdale (Pa.) Tube Co. (BW—Dec.4'48,p90).

Expansion last year cost Philco some $4-million. This year it plans to spend about $3.5-million.

• **New Venture**—Not all of this year's funds earmarked for expansion are going to the television and refrigerator divisions. A new interest of Philco's—electric ranges—will also get a substantial share of the funds.

Philco got into this field when it purchased Electromaster, Inc. (BW—Dec.4'48,p90). Its plant at Mt. Clemens, Mich., has a capacity of 100,000 units annually. For the time being, Philco will go on using the Electromaster name; it will probably switch to the Philco trademark when it develops its own models.

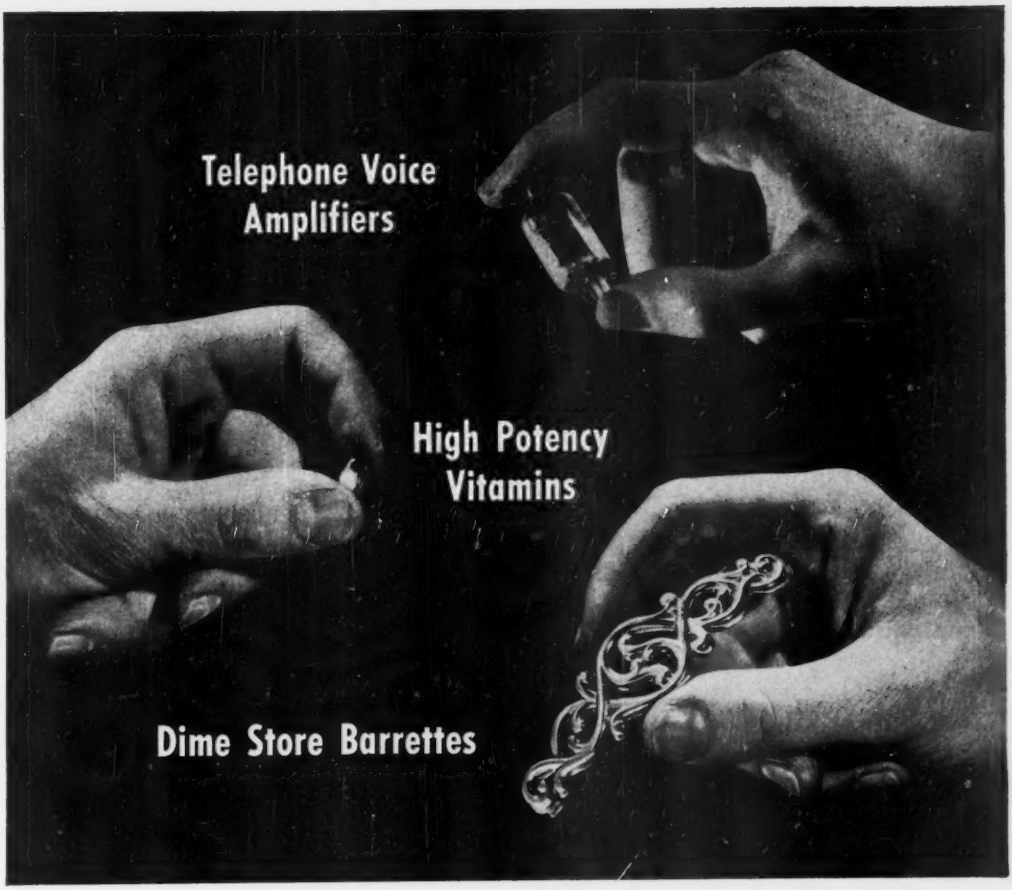
JUKEBOX OUTPUT REVIVED

The gaudy lights of Rudolph Wurlitzer's jukebox-making business are coming on again. For 10 months last year they were out completely while production was at a standstill.

Now Wurlitzer has resumed production "on a modest scale, and has begun to show a profit.

The whole jukebox industry, says Wurlitzer, is in an extremely delicate condition. The operator still gets only a nickel a play; he tried to get 10¢, but that attempt fell on its face. Meanwhile, the operator's costs have climbed steadily. Wages nearly doubled, and record prices rose.

Even so, business is looking up. Record costs are on the way down again. And Wurlitzer's new models incorporate a playing arm that makes it possible to get 2,000 to 3,000 plays from one record. Previously a disk was good for a maximum of 100 to 300 plays.



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Important vitamins for food fortification, pharmaceuticals and doctors' prescriptions are available *at moderate cost* because of high vacuum. Distilled under high vacuum the extract is purer—can be concentrated to high potencies.

Contrasting sharply to applications in the fields of electronics and bio-chemistry is the use of high vacuum in depositing metallic vapors on glass, wood, cloth, paper and plastics. Inexpensive but beautiful novelty jewelry, ornaments, barrettes, etc., are coated inside huge chambers from which air has been exhausted . . . a plating process that gives better results, cuts costs and permits bargain prices to a mass market.

These examples serve to emphasize the scores of different ways DPI high vacuum equipment is enabling new products and better products to be made at lower costs.

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HIGH VACUUM RESEARCH AND ENGINEERING

Do They Read?

Advertisers and editors would both like to know. New continuing business-paper study will find some answers.

How well does a businessman read his trade paper? That's a question plenty of advertisers would like to have answered. The publishers themselves would like to get the answer, too; it would help them know how well they're keeping their readers informed.

• **Survey**—This week the Advertising Research Foundation gave a partial answer to just that question. A. W. Lehman, managing director of the foundation, released a thorough study of the Oct. 15, 1948, issue of Automotive Industries, a semimonthly trade paper published by the Chilton Co., Inc.

(The Advertising Research Foundation is sponsored jointly by the American Assn. of Advertising Agencies and the Assn. of National Advertisers. The survey was made in conjunction with Associated Business Papers, Inc., which has a membership of 137 publications.)

The Automotive Industries study is the first in what the foundation calls the Continuing Study of Business Papers. The survey parallels other studies made by the foundation in other fields. These include the Continuing Study of Newspaper Reading (127 of these surveys have already been made), and studies of farm publications, weekly newspapers, and transportation advertising.

• **Specialist**—To measure the readership of advertisements and editorial content, the foundation called in the market-research organization of Alderson & Sessions, Inc. This company interviewed 463 persons, during a period between four and six weeks after they had received the publication. This group included 195 subscribers, and the persons to whom they later passed the magazine along. (The study found that 66% of these readers pass their copies along.)

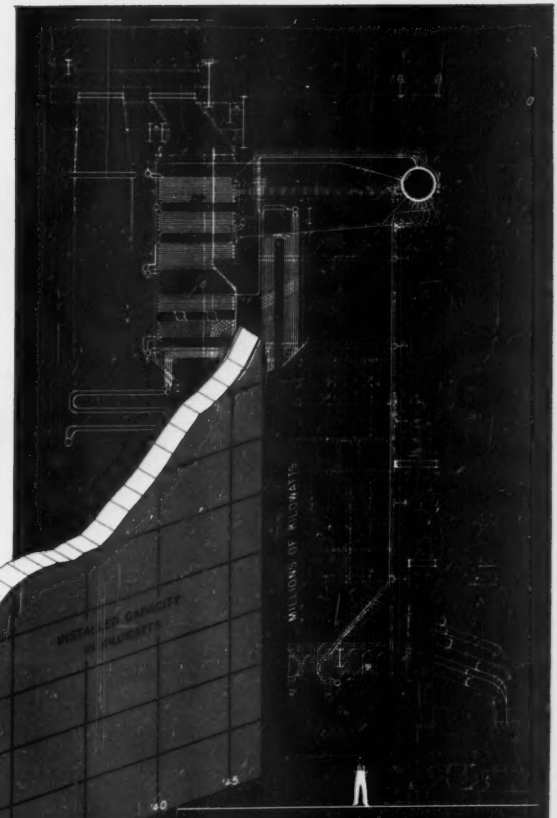
It's hard to tell just how well Automotive Industries fared. You have to remember that this is Study No. 1; that means there's no basis for comparison with other magazines until more studies are completed. The whole subject can't really be nailed down firmly until there are at least half-a-dozen such studies on the books.

• **Editorial**—Nevertheless, Study No. 1 shows some interesting facts about readership. Of the 463 persons interviewed, 80% said they had read the Oct. 15 issue of Automotive Industries. By giving these persons an "identification test" (in which they were asked

Pearl Street started an era of making POWER MORE PLENTIFUL

Steady growth of steam-electric central station generating capacity since 1900 >>>

Steam for the 540 kw. Pearl Street Station was supplied by four 216 HP Boilers like this one.



So that American homes, businesses and industries shall not want for electric power—and the unbounded services, conveniences and comforts it affords—the nation's power supply is being stepped up at a record rate. Nearly 80 percent of this increased capacity is being provided by privately-owned utilities at a cost of several billion dollars.

Most of America's new power—over 75 percent of it—is being generated by steam-operated equipment . . . a practice started in 1882 at Mr. Edison's Pearl Street Station, grandfather of modern central stations, and preferred throughout the industry's amazing 67-year growth.

And in selecting boilers for its latest increased steam requirements, the electric power industry is continuing another industry-old preference started at Pearl Street—B&W units. New B&W central station boilers placed in service or ordered since V-J Day have a combined steam capacity sufficient for over nine million kilowatts of generating capacity.

Central stations can always depend upon B&W for boilers that offer the last word in efficient, reliable steam generation . . . because B&W intensive research and resourceful engineering is constantly concentrated on helping to make power more plentiful at the least possible cost.

N-57

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.

General Offices: 85 Liberty St., New York 6, N.Y. Works: Alliance and Barberton, O., Augusta, Ga.
Water-Tube Boilers, for Stationary Power Plants, for Marine Service . . . Water Cooled Furnaces . . . Superheaters . . . Economizers . . . Air Heaters . . . Pulverized-Coal Equipment . . . Chain-Grate Stokers . . . Oil, Gas, and Multifuel Burners . . . Seamless and Welded Tubes and Pipe . . . Refractories . . . Process Equipment

Does your business r

Luria buildings offer you all the advantages of standardization—without the usual limitations

LOWER COSTS, through quantity production—without compromising on quality.

HEAVIER FRAME CONSTRUCTION permits the use of *fewer* and stronger structural members.

GREATER FLEXIBILITY—with wide choice of collateral materials, optional features and accessories.

EASIER ERECTION—because all field connections are designed for bolting. No welding or riveting required.

MORE USABLE SPACE—Luria's truss-free, rigid-frame construction gives unobstructed head room for the full length of the building.

GREATER AVAILABILITY—many sizes carried in stock for immediate delivery.

HERE ARE JUST A FEW OF THE HUNDREDS OF APPLICATIONS WHERE YOU CAN SAVE

Need extra warehouse space? Luria can meet your exact requirements—by the square foot, or by the acre—and give you prompt delivery, too.

A new factory? Plan it around Standard Buildings by Luria and get exactly what you want—even to the choice of collateral materials and optional features.

A bus or truck terminal? Luria buildings can provide all the facilities you need—for offices, storage, waiting rooms, loading areas—all from a standard line.

A new branch bank? A Luria building, of course—in either modern or traditional design. A building that you, and your community, can be proud of.

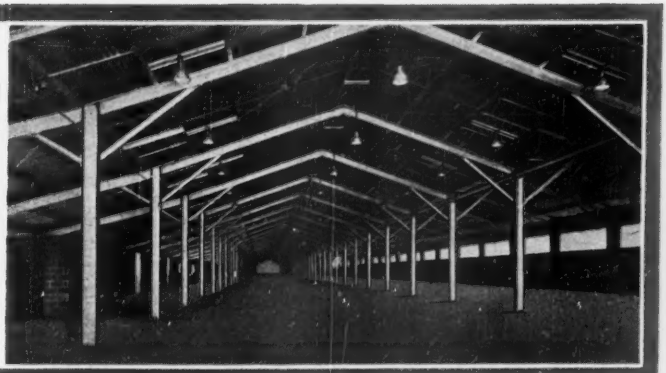
A building supply yard? Here's a typical example, where Luria buildings provide all needed facilities for a dealer in building-materials and fuel.

An automobile show room? Make it a Luria building—modern in design, costly in appearance, yet easy on your budget, easy to erect, easy to maintain.

...ss need more room to grow?

You can save up to 50% by planning your new building program around

Standard Buildings by LURIA



A growing business can't wait for building costs to come back to "normal." And there's really no need to wait — or to compromise on temporary, emergency facilities either. For you can build *now*, at savings of 20 per cent, 30 per cent and in some cases as much as 50 per cent, by planning your expansion around Standard Buildings by Luria.

It all began with an idea. The idea that *permanent*, heavy steel-frame buildings could be standardized — yet kept flexible enough to permit the widest possible range of adaptability and architectural freedom.

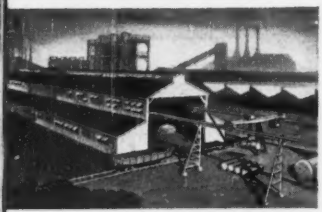
This idea is now a reality. For today, Luria buildings reflect the highest degree of standardization ever attained in the building industry. Yet they are so flexible in design — with such a wide range of sizes, optional features, and collateral materials — that they can, in effect, be "custom tailored" to meet your precise requirements.

Luria buildings are *not* lightweight temporary structures. They are *permanent* buildings, designed to meet the most exacting codes. Yet they actually cost little or no more than temporary prefabricated buildings of equivalent size—and as much as 50 per cent *less* than conventional, specially-engineered structures.

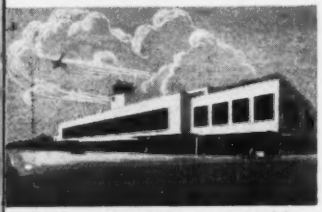
Before you ask for bids on any new building, be sure to get your copy of our new 20-page catalog on the complete Luria line. We're sure you will agree, as have hundreds of satisfied users, that Luria offers you the greatest value for your building investment today.

Note to Architects: *This catalog belongs in your files, too! For here is a new and flexible medium to work with — standard buildings that can be incorporated into any one-story plan with complete confidence. Yet they leave you abundant scope for your own creative ingenuity!*

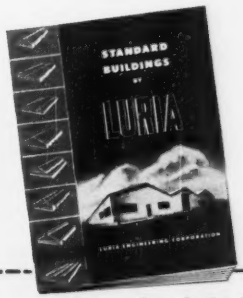
WITH LURIA BUILDINGS



A steel fabricating plant? Even the heaviest type of industrial buildings, with crane runways, are now *standard* with Luria.



What about airports? Luria standard hangars and administration buildings (like the one shown above) are in use at major airports all over the world.



Standard Buildings by LURIA

LURIA ENGINEERING CORPORATION, Dept. B-20, 500 FIFTH AVE., NEW YORK 18, N. Y.

Gentlemen: Please send me a copy of your new catalog.

Please indicate the type of building in which you are interested:

☐ INDUSTRIAL

☐ COMMERCIAL

☐ AIRPORT

NAME.....

COMPANY.....

ADDRESS.....

CITY.....STATE.....

to select articles that had appeared, from a "qualifying kit" which contained both published and unpublished pieces) the 369 "claimed readers" were reduced to 330, or 71.3% of the total interviewed. All readership scores for the issue were based on the responses of these 330 "qualified" readers.

For the total of "departments" and "features" the average readership was 35%; scores ranged from 82% to 8%. Pictures in the editorial section of the magazine drew an average readership of slightly more than 50%, with scores ranging from 91% to 14%.

• **Advertising**—Ad readership averaged about 20%. By product classifications, "component parts" advertising led with an average readership of 23%. The lowest category was "supplies," with 15%.

The study points out, however, that 96% of the readers noted one or more ads in the issue. Of the 21 highest scoring advertisements, 19 were full pages, one was an insert (an ad on both sides of the same page), one a spread.

The three advertisements topping the list were black-and-white. But among the top 21, there were twice as many color ads as black-and-whites.

• **Quality**—Here's another item the survey brought to light: 60% of the persons interviewed said they make or influence purchases of supplies and equipment. And another 14% said that one of their duties was to make "recommendations" for such purchases.

MARKETING BRIEFS

Retail toilet-goods sales during 1948 inched ahead of the 1947 mark by 0.8%. The Toilet Goods Assn. puts last year's total at $687.6-million.

•

New magazine called Tops will be a refinement of the comic-book technique—for adults. It's in four colors and will hit the stands Apr. 27. New York publisher Leverett S. Gleason says Tops will have a guaranteed circulation of 300,000.

•

Rug prices are heading down again. In January there was a general increase of about 3%. Last week three major makers of wool floor covering—Mohawk, Bigelow-Sanford, James Lees—cut prices on their woven lines by an average of 2%.

•

Oklahoma's "loss-leader" act went out the window last week when the state's Supreme Court found it unconstitutional. Passed in 1941, the law forbade retailers to sell at a loss, required at least a 6% markup. This wasn't a fair-trade law—which permits manufacturers to specify minimum resale prices.

READERS REPORT:

U. S. vs. British Productivity

Sirs:

In your picture article on "Two Ways of Making Jet Aircraft Engines" [BW—Mar.12'49,p101], there is one photograph showing a British worker at the de Havilland plant tapping turbine blades on a small drill press, and immediately to the right of this picture you show a woman worker at the Allison plant. You say that she is doing on a multiple basis what the British worker is doing. . . .

She is not tapping turbine blades but performing a grinding operation—in fact, if I am not mistaken, it is an Ex-Cell-O machine that she is operating. . . .

KEITH F. GALLIMORE, JR.
KLAU-VAN PIETERSOM-DUNLAP ASSOCIATES,
MILWAUKEE, WIS.

Sirs:

How does one tap on a surface grinder?. . .

F. A. ZIEGLER
ASST. WORKS MANAGER,
THE MB MFG. CO., INC.,
NEW HAVEN, CONN.

Sirs:

. . . There is no question but that the British have their faults as well as ourselves. However, the pictures you show appear to me to be rather misleading, especially to people who do not know one machine or process from another. For example, page 101, lower two pictures: The caption on the British picture indicates the man is tapping turbine blades and this appears to be the case; however, the picture alongside infers that the woman at Allison is doing the same thing (tapping) to 18 blades at once. Actually the woman is grinding the blades on a surface grinder, this operation has no resemblance to a tapping operation. . . .

One disadvantage of our seeming love for standardization is the difficulty of making changes or improvements, once an item is put into production. In order to accomplish such a change, either the item must be eminently unsatisfactory almost to the point of being unsalable, or the recommended change must be such an improvement that the reduction in cost in making it will absorb the cost of the change very rapidly. With the latter I have no fault to find, but some way should be found to get around the former condition. . . .

PHIL C. FAITH
FLUSHING, N. Y

• The caption on the U. S. picture on page 101 was too brief to be entirely

How to deliver a load at low cost

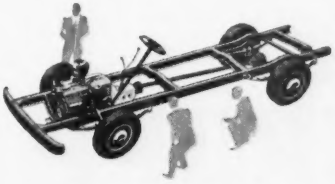
The answer's as simple as A, B, C. Get a truck that *fits* your hauling needs . . . a Dodge *"Job-Rated"* truck.

Such a truck will have the right power. It will have the right balance, and the right capacity to haul *your* loads over *your* roads.

That's why Dodge trucks cost so much less . . . to own, and to operate.

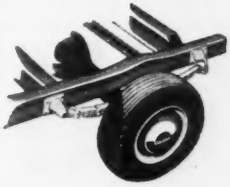
See your Dodge dealer. Tell him what you haul . . . the weight of your loads . . . and where you haul them. From 248 basic chassis models he'll specify a truck that's *"Job-Rated"* for *your* loads.

A "Job-Rated" truck engine provides exactly the right combination of power, performance and economy, for your hauling job . . . insuring low maintenance expense, too.



Every unit of the Dodge truck power line —from engine to rear axle—is engineered to fit the job.

Clutch, transmission and rear axle are "Job-Rated" to move your loads dependably and with utmost economy.



All load-supporting units, such as frames, springs, axles, wheels and tires are designed to fit the job.

That's why Dodge "Job-Rated" trucks "stand up" so well . . . stay on the job . . . and last longer.

For the good of your business...

switch to DODGE "Job-Rated" TRUCKS

FOR THE LOCATION OF YOUR DODGE DEALER, CONSULT THE YELLOW PAGES OF YOUR PHONE BOOK

accurate. The point we were trying to make was that machining is done one blade at a time by the British, while the U. S. handles many. Our caption under the U. S. picture should have said: "A woman at Allison machines 18 blades at once with multiple-fixture machine."

We believe standardization makes it easier to achieve improvements. U. S. electric motors have not declined in efficiency over the years during the course of standardization of the relatively unimportant parts of the design. Standardization doesn't stultify—it releases engineering and production talent to work and concentrate more fully on the important features in a design.

More in Semicircle

Sirs:

The gremlins must have run off with an important segment of "New Jersey's Semicircle of Science" [BW—Feb.26 '49,p30]—the omitted part about the Westinghouse Lamp Division's Research Laboratories, Bloomfield, which is about in the geographical bullseye.

BUSINESS WEEK, as well as other general and scientific publications, has frequently reported the accomplishments of our physicists, metallurgists, and bacteriologists.

Typical of the wonders coming out of our laboratories were the first pure uranium for the atomic bomb experiments; the Sterilamp, man's first bacteria-killing lamp; and X-Ray motion pictures.

We have complete facilities for pure research and practical studies of the various problems involving electric lamps, electronic tubes, metals, gases, and glasses.

CARL E. ALBRACHT
LAMP DIVISION,
WESTINGHOUSE ELECTRIC CORP.,
BLOOMFIELD, N. J.

Sirs:

. . . You neglected to mention the small but active scientific organization known as L.A.B. Corp. . . .

Specializing in highly developed vibration-fatigue testing machines, L.A.B. also now produces package-testing machines which are widely used by large shippers to assist them in reducing the enormous loss and damage in transportation and handling of packaged products.

H. GEO. D. NUTTING
VICE-PRESIDENT,
L.A.B. CORP.,
SUMMIT, N. J.

• Obviously we could not list all the research enterprises in New Jersey's scientific semicircle—as these instances of omissions of a large laboratory and a small one indicate.

ARE SALES YOUR PROBLEM?

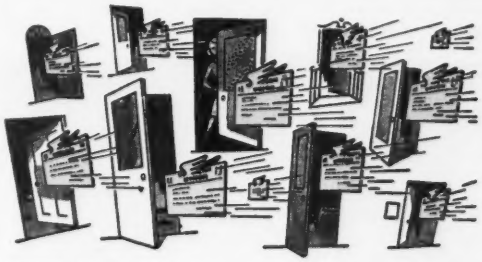
SEND "BOOK" TELEGRAMS

TO STIR BUYING ACTION

STIR THE TRADE. *Get dealers and distributors moving* —with "book" telegrams. Whether you're making a special offer—announcing a new product—merchandising a new package—*whatever* your need—you can get extra orders, displays and tie-ins with "book" telegrams.

STIR THE SALESMEN. *Excite them to greater action*—with telegrams. During sales contests and sales drives, keep salesmen informed and on their toes. And pave the way for them with advance telegrams to the trade.

STIR THE CUSTOMERS. *To get them coming—get "book" telegrams going!* Invite prospects to model showings or openings of new departments, announce bargains and style changes with telegrams. They say "Important!" . . . get people to come in and see "what it's all about."



MAKE MORE CALLS *with "book" telegrams.* Your message is sent to a list of addressees simultaneously, covering the ground quickly, economically. Whether you are a retailer, wholesaler or manufacturer—study the promotional possibilities of this major business tool.

● Ask for a Western Union representative to call and explain —with interesting "case histories"—how Western Union telegrams can help solve your promotional problems and assist in the daily conduct of your business.

ARE YOU USING TELEGRAMS IN ALL THESE WAYS?

For Mother's Day promotions *and for other special or seasonal tie-ins to move merchandise.*

Acknowledging orders or complaints*—to give your customers assurance of prompt attention.*

Conducting business operations. *Expediting shipments, placing orders, locating supplies, speeding business.*

NOTHING ELSE GETS THROUGH,

GETS ACTION...LIKE A...

Telegrams always win that "important" spot on the desk, get first attention—cut through indifference and get prompt action—provide a permanent record and are legally binding.

WESTERN UNION
TELEGRAM

PRODUCTION

Handling Fluorescent Tubes

Use them with care and you will have no trouble; they're no more dangerous than most electrical equipment. What accidents there have been have come mainly from careless disposal.

If you use fluorescent lights in your plant or home, you have probably been doing some worrying about recent rumors that they are dangerous. Newspaper stories have played up beryllium poisoning from broken tubes.

• **Exaggerations**—Like other "scare" stories that appear from time to time, these have exaggerated the real danger. Fluorescent tubes, actually, are no more dangerous to handle than many another electrical, mechanical, or consumer device.

In the last week, rumors have pyramided to the point that many plants have started circulating hasty warnings among personnel. Even cities have taken action: This week, the New York City Board of Health held a meeting with manufacturers and users to work out adequate rules for lamp disposal, figure out ways of distributing the data.

• **Spurred to Action**—Aware all along that beryllium is a poison, the lamp-makers have given information about disposal to big users. But they haven't printed a warning on their lamp packages, nor generally spread the word among home users. They didn't think it was necessary. As one maker explains it, more than 500-million of the lamps have been used since their introduction in 1938, and the number of reported inflammations traceable to beryllium has been infinitesimal.

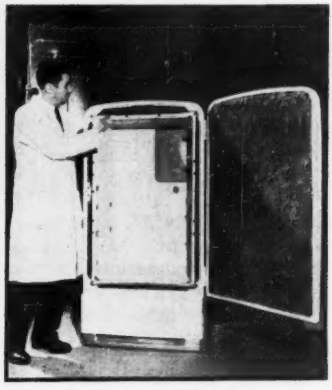
The newspaper stories have now spurred the industry to launch an educational campaign, based on facts, to reach all users.

• **The Facts**—Here are simple facts: Fluorescent lamps are coated on the inside with a phosphor (fluorescent material) that contains a small amount of beryllium ranging from a fraction to 4%. The lamps also contain mercury vapor. Beryllium is a poison, so if you cut your hand with a broken tube, and don't get it treated promptly and adequately, the cut may become inflamed.

When lamps are burned in an in-

Plastic Bubbles Are . . .

This hunk of plastic foam, weighing only 8 lb., is made by expanding a phenolic resin to 100 times its original volume. Scientists at the Westinghouse Research Laboratories, who developed the foam, heat the specially compounded, molasses-like resin to 350F. The resulting substance—20 times lighter than the meringue on a pie—is expected to make an important new insulation.



. . . New Insulation

The new insulation gets a test in a refrigerator door. Technicians first pour a small amount of liquid resin into the door cavity, then heat whole assembly for 15 minutes. The resin foams up into thousands of tiny gas bubbles, fills the space. Westinghouse sees potential saving because insulation can be shipped as liquid, then foamed up where and when it is needed.

BACKGROUND FOR MODERN TRANSPORTATION


Spreaders and Finishers for bituminous paving


Subgrading machines for concrete paving


Concrete Spreaders for highway paving


Finishing machines for concrete pavements


Trukmixers for mixing concrete in transit


Clamshell Buckets for digging and rehandling


Batching Plants for aggregates and cement


Pavers for mixing and placing concrete paving

To a great extent the highways of America bear the Blaw-Knox trademark, for Blaw-Knox is responsible for innovations and developments in road-building machines and equipment that have changed paving from feet-per-day to feet-per-hour.

In many other fields, too, Blaw-Knox engineering knowledge and production facilities can help to cut costs and increase production. An engineer-to-engineer discussion is invited.

Representative of Blaw-Knox products and services are the following:

Design and construction of complete CHEMICAL AND PROCESS PLANTS.

PROCESS EQUIPMENT and machinery for the chemical and food industries.

STEEL AND ALLOY CASTINGS giving maximum resistance to wear, heat and corrosion.

ROLLING MILLS, AUXILIARY MACHINERY, ROLLS and other special equipment for the steel and nonferrous industries.

PIPING SYSTEMS for high pressures and temperatures.

AUTOMATIC SPRINKLER, fog, and deluge systems.

RADIO TOWERS and antenna supporting structures for all types of broadcasting and communications.

ENGINEERED BUILDINGS for industry and agriculture.

STEEL FORMS for concrete construction.

CLAMSHELL BUCKETS

OPEN STEEL FLOORING AND STAIR TREADS

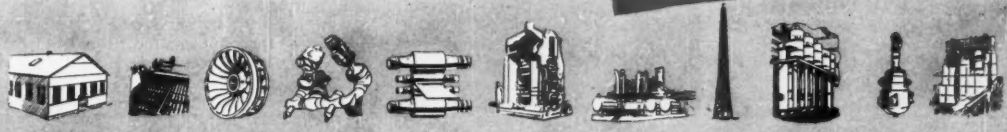
ENGINEERING SERVICE in the design of special machinery and processes for industry at large.

OPERATING AND SALES DIVISIONS

BLAW-KNOX DIVISION
BLAW-KNOX SPRINKLER DIVISION*
BUFLOVAK EQUIPMENT DIVISION
BUFLOVAK MIDWEST COMPANY
CHEMICAL PLANTS DIVISION*
THE FOOTE COMPANY, INC.**
LEWIS FOUNDRY & MACHINE DIVISION
NATIONAL ALLOY STEEL DIVISION
PITTSBURGH ROLLS DIVISION
POWER PIPING DIVISION*
UNION STEEL CASTINGS DIVISION

*Operates as a division of Blaw-Knox Construction Company
**Subsidiary of Blaw-Knox Company

BLAW-KNOX
COMPANY
A Processor for American Initiative and Ingenuity
2104 Farmers Bank Bldg., Pittsburgh 22, Pa.


Industrial Buildings
Open Flooring
Iron, Steel & Alloy Castings
Power Piping
Rolls for Rolling Mills
Rolling Mill Equipment
Chemical Plants
Towers
Food Processing Equipment
Process Equipment
Steel Forms

cinerator, beryllium fumes can be formed. When hundreds of lamps are burned at one time—as they are daily in big plants—the attendant can get lung trouble if he breathes the gas.

Gas poisoning, however, could hardly occur at home. Cuts, though rare, are more likely; if they are treated promptly and properly there will be no trouble. Best thing to do is to go to a doctor. If you can't, wash the cut with soap and water, get all glass splinters out, apply a recognized antiseptic and a sterile dressing.

• **Report on Beryllium**—The whole problem got a thorough going-over last year in a project sponsored by the Medical Advisory Committee on Beryllium, a group of industrial medical advisers. It is headed up by Dr. J. G. Townsend, medical director of the industrial division of the U. S. Public Health Service. You can get this report from the Saranac Laboratory, Saranac Lake, N. Y.; and it has been reprinted by the National Safety Council. The report was prepared with the advisory help of industrial medical consultants; it represents sane thinking about the problem.

Here's the way to handle the tubes in your home or plant:

If you have to destroy only a few, break them out of doors in a waste-disposal area—and put each tube in its original container before you break it. Try not to breathe the dust or vapors, and attend promptly to any cuts.

If you have to break a lot of bulbs, get a waste container fitted with an exhaust hood.

• **Cautions**—Don't use an incinerator; water or dump disposal is much safer from the dust angle. And if you use a dump, make sure that children can't get at the tubes to use them as playthings.

It's a good idea, too, to have your operator wear heavy gloves when he breaks the bulbs. That isn't really necessary in the home.

Eventually, however, you will be able to relax some of your precautions, for researchers, in their quest for better light from the tubes, are now working with phosphors that do not contain beryllium.

BLIPS ARE BUGS

Reflections of unknown origin appearing on radar screens have stumped the experts for about eight years.

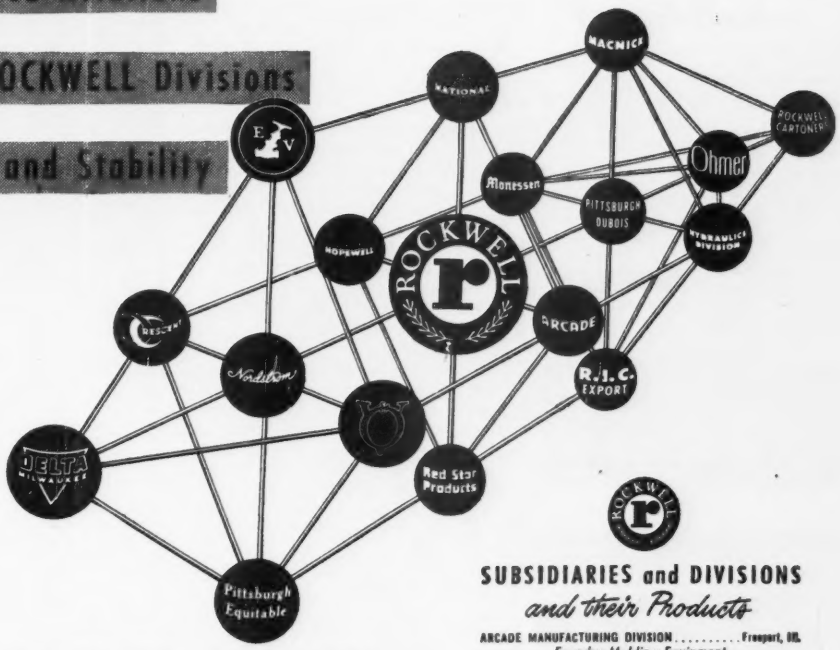
Bell Telephone Laboratories men have the answer: flying insects. For a while, the presence of "angels" was laid to the weather; simulated weather tests proved otherwise. On a hunch, the experts tried counting the insects passing through a radar beam and the number of "angels" simultaneously seen on the radar screen. The count came out about even.

HOW

Coordinated Relations

Give 17 ROCKWELL Divisions

Strength and Stability



The Rockwell industrial pattern is an integrated and interrelated one. There are 17 individual divisions and subsidiaries closely linked one to another. All evolve about and are coordinated by the parent firm.

Each company member in the Rockwell group is sufficiently independent to operate with the flexibility inherent only in a small business. Yet each enjoys the advantages of large scale centralized purchasing and research facilities, the pooling of collective manufacturing knowledge and the economies of mass marketing.

Under the Rockwell pattern, the individual plant units prosper to a greater extent than if separately operated. From the buyer's standpoint the advantages of this coordinated relationship translate into better products, better service, better values.

"The Biggest Small Business in America"

ROCKWELL

MANUFACTURING COMPANY

PITTSBURGH 8, PA.

SUBSIDIARIES and DIVISIONS

and their Products

ARCADE MANUFACTURING DIVISION ..... Freeport, Ill.
Foundry Molding Equipment

CRESCENT MACHINE DIVISION ..... Lewisburg, Ohio
Woodworking Machines

DELTA MANUFACTURING DIVISION ..... Milwaukee, Wis.
Machine Tools

EDWARD VALVES, INC. ..... East Chicago, Ind.
Steam Valves

HOPEWELL DIVISION ..... Hopewell, N. J.
Parts and Assemblies

HYDRAULICS DIVISION ..... Pittsburgh, Pa.
Hydraulic Propulsion Units

MACNICK DIVISION ..... Tulsa, Okla.
Parking Meters (Manufactured for Magee-Hale Park-O-Meter Co.), Chart Clocks

MONESSEN FOUNDRY DIVISION ..... Monessen, Pa.
Iron and Brass Castings

NATIONAL METER DIVISION ..... Brooklyn, N. Y.
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NORDSTROM VALVE DIVISION ..... Pittsburgh, Pa.
Lubricated Plug Valves

OHMER CORPORATION ..... Dayton, Ohio
Cash Registers, Fare Registers, Taximeters

PITTSBURGH DUBOIS DIVISION ..... DuBois, Pa.
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PITTSBURGH EQUITABLE METER DIVISION ..... Pittsburgh, Pa.
Gas Meters and Regulators, Oil Meters

RED STAR PRODUCTS, INC. ..... Norwalk, Ohio
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ROCKWELL INTERNATIONAL CORPORATION ..... New York, N. Y.
Export

ROCKWELL PACKAGING MACHINES, INC. ..... Hudson, N. Y.
Cartoning Machines

V&O PRESS COMPANY DIVISION ..... Hudson, N. Y.
Punch Presses

New Joint for Panel Assembly

Many new structural uses have been opened to war-born honeycomb panels by discovery of a simple locking device.

Toward the end of the war, a new structural material, honeycomb, got lots of attention—particularly from plane designers who wanted strength and stiffness without paying the penalty of weight.

• **Sponsors**—The material was developed jointly by United States Plywood Corp. and Glenn L. Martin Co. Essentially, it is a panel made of a high-strength ply or skins joined to a core structure resembling a honeycomb. The outer skin can be aluminum or plywood or practically any sheet material; the core, a resin-impregnated paper or cotton, or a metal foil, formed to the proper hexagonal shape.

The stuff wasn't cheap during the war (because of limited production). But the backers expected a big demand for it after the war, for uses ranging from chemical containers to doors. Even prefabricated buildings. Two basic problems stood in the way: (1) There was no simple way to attach panels together; and (2) there was no simple way to get a weatherproof joint.

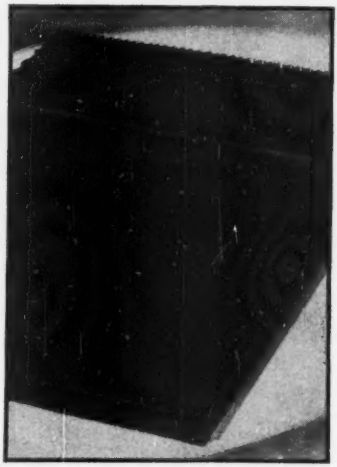
• **The Clincher**—This week, U. S. Plywood was feeling fine: It has the new attachment method, and that method makes weatherproofing easy. What's more, the joining device is inexpensive, easy to install, and practically foolproof.

The fastener (lower picture) was developed by Simmons Fastener Corp., Albany, N. Y., working independently. On the strength of the new device, plus the known advantages of honeycomb, U. S. Plywood has landed $1-million in government contracts for honeycomb panels for arctic shelters. The company has other good business in prospect, too. It is sharing in the military-aircraft boom, and it figures to get substantial orders for a pressure-tight, lightweight container.

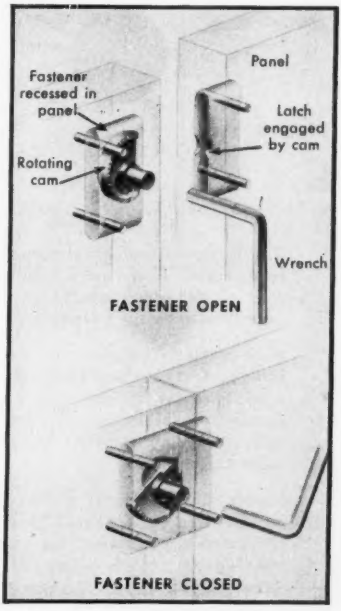
• **Advantages**—According to O. S. Tuttle, the company's chief engineer, the material offers high strength in relation to weight, and can be "tailored" to meet specific design conditions. Also, the honeycomb can be filled with insulation to hold heat in or keep cold out.

One engineers find out about these properties. Tuttle thinks lots of new applications will open up. (For example, the company has a lightweight, portable, walk-in, refrigerator unit in the final stages of development.) As applications increase, honeycomb output can be boosted. Then the cost of the panels, always a problem up to now, will drop.

• **Cam and Latch**—The fastener that has solved honeycomb's big problem is called Roto-Lock. Basically, it was developed from the principles that make the old-fashioned windowlatch work. A curved cam, when rotated, engages a



STRONG BUT LIGHT: Honeycomb panels are ideal for many types of construction, now that a way has been found to join them. The solution is this . . .



FOOLPROOF LOCK: Twist the wrench and a cam pulls parts together tightly

"You THINK you know what Roebling makes...

you stand there talking about Roebling wire cloth and screening. Well I tell you Roebling makes *electrical wire and cable*. I've bought them since before you were born!"

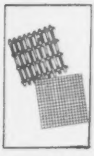
• • • •

Of course both engineers are right. At its four big plants in and near Trenton, New Jersey, Roebling makes an extremely wide variety of wire and wire products . . . develops new types and achieves quality standards of highest efficiency and service economy to industry.

ROUND — FLAT — SHAPED WIRE. Every inch of Roebling high carbon wire is just like every other inch in gauge and temper, grain structure and finish. That means fewer rejects, fewer stoppages . . . production speed and lowered costs... It's available *now!*

WIRE ROPE. Roebling wire rope is a standard specification in many industrial fields. Among the large variety of types, Roebling Preformed "Blue Center" Steel Wire Rope is outstanding for easy handling, operating efficiency and economical service cost.

ELECTRICAL WIRE — CABLE — MAGNET WIRE. With 65 standard types to choose from, there's a Roebling Electrical Wire or Cable for all transmission, distribution and service requirements . . . For high-speed winding you'll find Roevar Magnet Wire is tops.



WOVEN WIRE FABRIC. Roebling industrial Screens range from finely woven Filter Cloths (including highly corrosion-resistant types) to largest Aggregate Screens. Roeflat Screen, a new development, has 75% more wearing surface . . . gives up to 90% more wear.

Investigate Roebling products and their possibility of helping production and cutting costs in your own operations. Write or call your nearest Roebling branch office. John A. Roebling's Sons Company, Trenton 2, New Jersey.

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lip or latch. The cam is mounted in one panel; the latch in the other. As the cam is tightened up, it tends to pull the panels tightly together.

The cam can be turned in several ways: It can be fitted with a nut and turned with a wrench; or, if a six-sided hole is used (as in the picture), it can be turned with an "Allen" wrench, which is simply a six-sided bar that engages the six-sided hole in the cam.

• **Versatile**—Simmons says the fastener can make either right angle or flat joints. It recesses completely; it has no exposed parts; when closed, it can't be seen. On thin sheets, it can be mounted on the outside. It draws panels tightly together, under high tension.

If a weatherproof or waterproof seal is needed, a gasket can be put between the panels. The fastener, as it closes, brings pressure on the gasket.

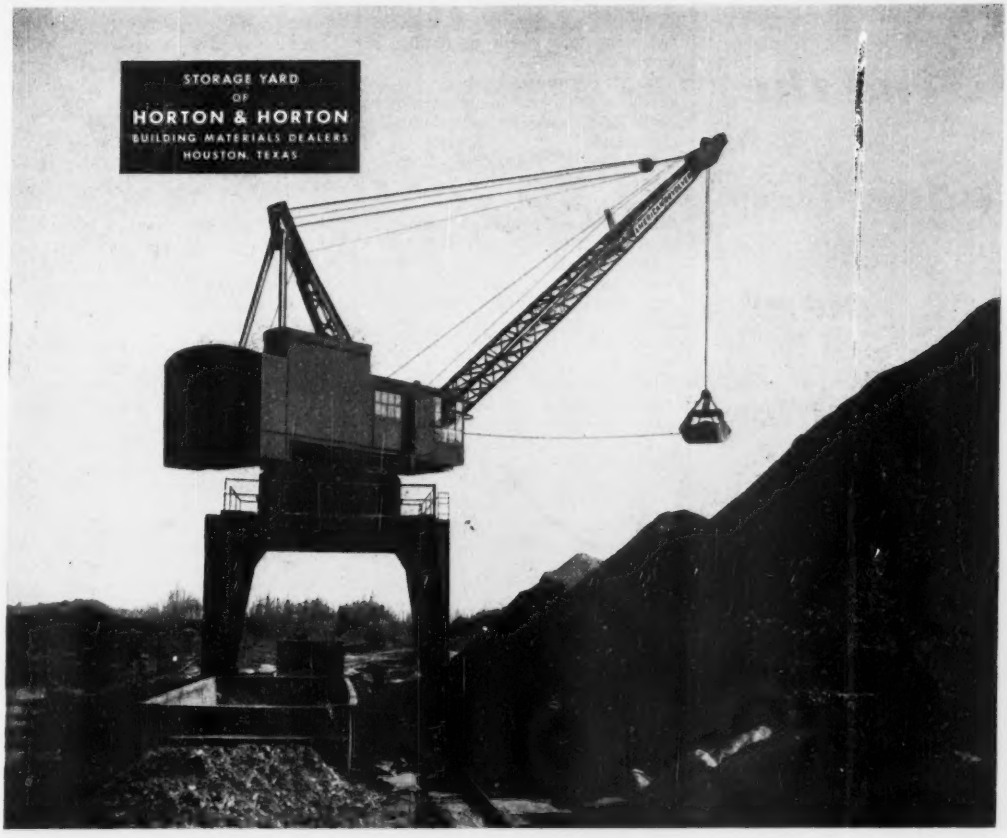
• **No Skill Needed**—U. S. Plywood engineers figure that the honeycomb-and-fastener combination will be particularly helpful in applications (like the Army's arctic shelters) where unskilled labor is

DEVELOPER: O. S. Tuttle, U. S. Plywood's chief engineer, promotes new uses for honeycomb structural panels

used for assembly. Also, it permits easy demounting of a structure.

According to Tuttle, a building with 1,000 sq. ft. of floor area made of these panels will weigh less than five tons complete, including foundations and frame. A 90-ft.-long by 20-ft.-wide building has been flown, knocked down and packaged, in a single C-54 plane. Such a building, with Roto-Lock fasteners, can be erected by four unskilled men in less than four hours.

• **Other Facings**—U. S. Plywood engineers' thinking is not confined to plywood—or metal-faced honeycomb. Right now they are experimenting with other facing materials (like their new rat-proof



Build a coal mine in the sky!

This particular mountain happens not to be coal. It's a monster pile of oyster shell, but it illustrates a principle most frequently applied to coal handling.

All over America, smart industrial managers are using this principle, and AMERICAN REVOLVER CRANES, to build coal mines in the sky. With this towering, gantry mounted crane they can build stockpiles as high as five story buildings. They can empty a whole train of cars without moving a car.

And when it comes to reloading—as the small picture shows—the big clamshell on the AMERICAN REVOLVER can fill a 50-ton "battleship" in a matter of minutes.

We don't know how you can beat this principle, if you're handling big quantities of bulk materials. It enables you to use hundreds of acres of ground space, if you want—and all the air above it. It gives you speed sufficient to load 100 cars or more per day. It gives you the economy of one-man operation . . . for handling *millions* of tons.

The AMERICAN REVOLVER is made in five basic models, with boom radii of 80 to 150 feet, lifting capacities of 55,000 to 150,000 lbs. Power may be steam, electric, gasoline, diesel or diesel-electric. For literature showing applications and mechanical data, mail the coupon below.

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● Please send me complete information on the American Revolver Crane for materials handling.

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26

Protekwood) in an effort to lower costs. They are also working on a production setup that will simplify the making of the honeycomb panels, as another way to cut costs.

With a broadened range of honeycomb materials available at a reasonable cost, Tuttle looks for a big future for the panels.

• **Commercial Possibilities**—A typical prospect: shipping containers for less-than-carload shippers. Users would have the weight and strength advantages of honeycomb; they would also be able to knock down the containers for storage, or for return shipment. The containers can be made gas-tight by using gaskets between panels, and the knock-down feature allows them to be cleaned easily when they are used for food shipment. In another design, the bottom can be used as a pallet; when it is loaded, the sides and top can be locked into place.

Other futures for honeycomb include: truck-trailer bodies; refrigerator-car panels; military and civilian housing; furniture; office partitions; counter fronts; or practically any application where weight, strength, and stiffness are controlling factors.

• **Lock's Chances**—Roto-Lock also has a rosy future, aside from its use with honeycomb. The assembly device can be easily adapted to other types of structural materials. It would be a natural for instance, in furniture assembly, bulkheads, partitions. Although most Roto-Lock output today is going to U. S. Plywood, Simmons plans to push its use by other manufacturers.

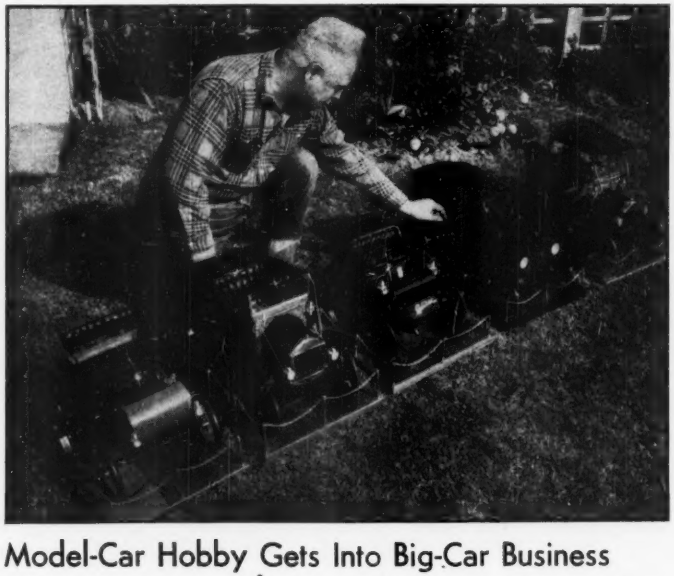
ISOTOPES GAGE THICKNESS

General Electric Co. has put radioactive isotopes to work in a new thickness gage.

The gage uses a pin-point amount of strontium 90, which casts a stream of beta rays at material moving along a conveyor. The material—aluminum or tin foil, plastics, textiles, or rubber—absorbs some of the rays, lets others pass through it. The thicker the material, the fewer the rays that get through. The unabsorbed rays are collected in an ionization chamber where they create a voltage.

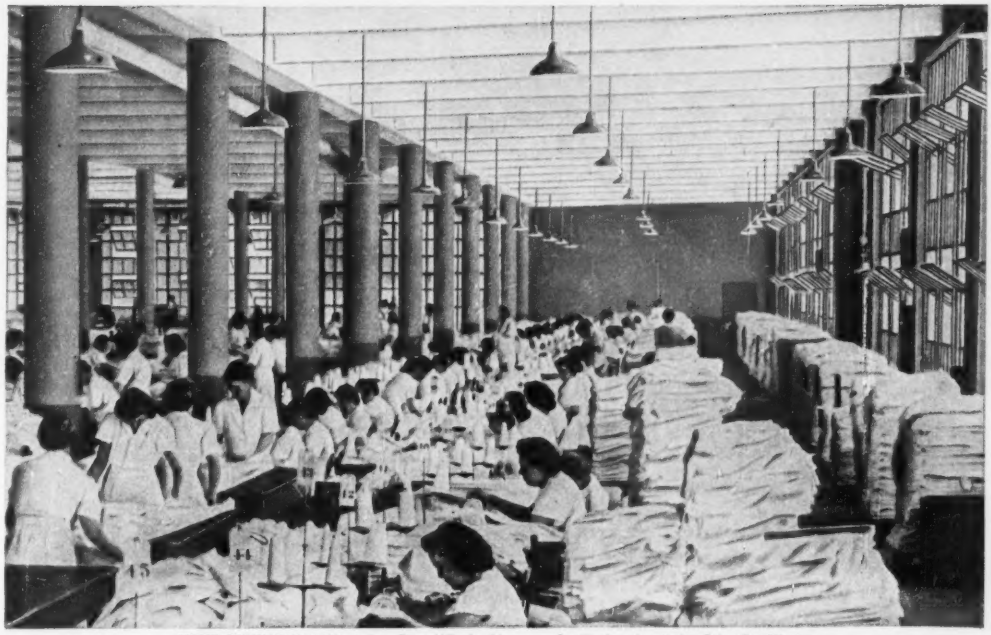
A secondary voltage is then applied to the gage. This cancels out the charge in the ionization chamber. The amount of voltage it takes to cancel the charge is a measure of the good's thickness.

The "drift" or inaccuracy is not more than 1% an hour after the gage warms up, which takes about 30 min. As a consequence, G. E. says the machine needn't be calibrated more than once every four hours.



Model-Car Hobby Gets Into Big-Car Business

If you get too good at your hobby, watch out; it might turn into a business. Retired carpenter Arthur Salmons of Hynes, Calif., started making detailed miniatures of early model cars as a hobby. Then Los Angeles auto dealers got wind of his work, began ordering Salmons' models to use as window displays. So far, Salmons has turned out about 40 miniatures. Costs range from $25 to $30—exclusive of labor. One model of an early Cadillac drew a price of $150 from a Cadillac dealer. Built to one-sixth scale, the models are about 2 ft. long, weigh a little less than 5 lb.



SHEET SEWING ROOM at Dan River Mills. In this area of critical seeing tasks, Color Conditioning combines with good light to aid visibility, improve the quantity and quality of output, and reduce accidents.

SAFETY! Du Pont Safety Color Code "points up" hazardous areas . . . helps prevent injury. Colors and symbols quickly identify first aid and fire protection equipment.

MORALE! Pleasant surroundings give employees a "lift," pay off in better morale, better care of equipment. In cafeterias, restrooms, offices, etc., COLOR CONDITIONING imparts an agreeable, efficient atmosphere.

SERVICE! A Du Pont maintenance painting expert is ready to discuss COLOR CONDITIONING with you . . . show you how it can be applied to your buildings.

DU PONT COLOR CONDITIONING

works at Dan River Mills

DAN RIVER MILLS, Danville, Va., one of the world's largest textile mills, put color to work four years ago. Benefits were apparent in a short time. Employees said weave and spinning rooms "seemed cooler," that color lessened eyestrain on delicate work around machines, let them *see* what they were doing. Result: increased production, lower accident rate, better employee morale.

Color Conditioning can work for you . . . regardless of your business. You may make fine lace or heavy machinery, in an old or modern building. Whatever the case, it *pays* to help employees see better, feel better, work better . . . through Du Pont Color Conditioning.

And Color Conditioning costs no more than ordinary maintenance painting . . . *less* in the long run. Mail coupon for full information. No obligation, naturally.

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Please send me, without obligation, your 32-page book, "Color Conditioning for Industry."

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Photo by Thill-Muray

"How soon can I get up?"

IT'S a wonderful moment, isn't it, when the doctor tells you that you are on the road to recovery? That's when you *really* begin to "sit up and take notice!"

Today, thanks to the doctor's use of the remarkable new *antibiotic drugs*, that moment comes sooner and with diminished suffering to thousands.

One of the newest and most versatile of these drugs is AUREOMYCIN—so named because of its golden color by the micro-biologists who developed it at Lederle Laboratories Division of American Cyanamid Company. AUREOMYCIN attacks a whole group of infections for which there has been no cure up to now.

AUREOMYCIN is a medical spearhead. It reaches out into a new and unconquered territory of disease, which has been untouched by either penicillin or streptomycin. It is another in a long list of Lederle achievements which are helping to safeguard the health of mankind.

AMERICAN *Cyanamid* COMPANY

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

MOLDING THE FUTURE THROUGH CHEMISTRY

PRODUCTION BRIEFS

Producing sponge iron by gaseous reduction of iron ore is described by the Bureau of Mines. The report covers foreign and domestic methods (including patented commercial ones) and experiments conducted by the bureau. Write to 4800 Forbes St., Pittsburgh 13.

•

Pfaudler Co. is turning out larger glass-lined steel tanks. Its one-piece, glass-lined, chemical storage tanks have a capacity of 35,000 gal.

•

More high-test gasoline from poor grades of crude oil can be made by a new process that removes sulphur (which increases fuel consumption and corrodes engine parts). Esso chemists' method is to take out most of the sulphur content, prior to cracking, by adding hydrogen gas under relatively low pressure.

•

Chicago & North Western has opened a $2-million "service station" near Chicago. It will speed up repairs and servicing of diesel locomotives.

•

Wigton-Abbott Corp., Plainfield, N. J., is precasting concrete foundations and sills in 20-ft. sections for its contracting jobs. First use: at Continental Can's new 700,000-sq.ft. plant near Pittsburgh.

•

U. S. Rubber's new lab for textile research and development, at Winnsboro, S. C., will carry on from Agriculture Dept.'s fundamental research. It will cost $250,000, will begin operation in about nine months.

•

Commercial production of trimethylhexanol is under way at du Pont. It reacts with certain other organic compounds to give products that appear promising as synthetic lubricants, lubricant thinners, and softeners in plastic manufacture.

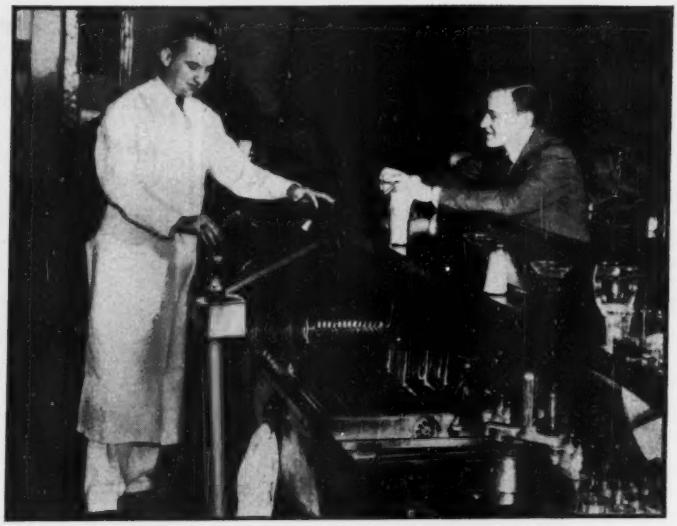
•

"Canning" turbo-jet aircraft engines for shipment to the Navy is United Aircraft's latest. The steel containers (about 12 ft. long) can be tossed overboard from a ship and floated ashore. They are built so that they can stand rough handling.

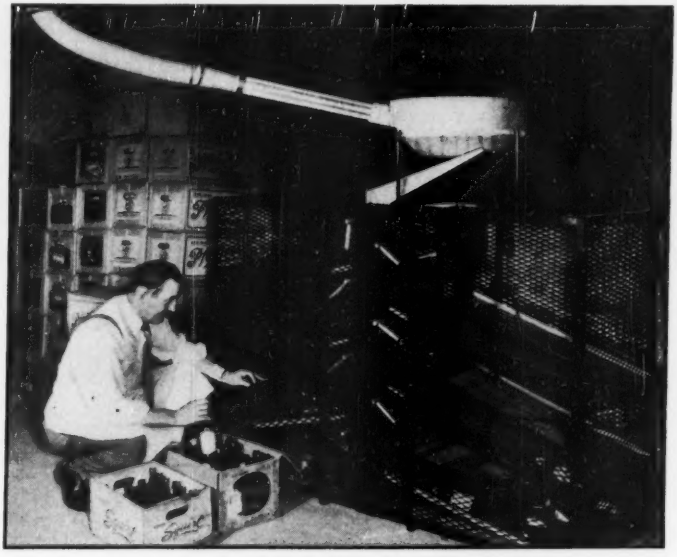
•

Technical sessions of the American Institute of Chemical Engineers will be held in Tulsa, May 8 to 11. They will cover production of chemicals from petroleum and natural gas, and the part that chemical engineering plays in oil production.

NEW PRODUCTS



Bar-man (above) sends empties through tube for quick disposal in basement (below)



Bartenders' Morgue for "Dead Soldiers"

Used beverage bottles can be safely dropped from the bar or lunch counter to an automatic disposal unit in the cellar with Ken-O-Mat, a product of Kenwell, Inc., 130 Trowbridge St., Grand Rapids 2, Mich. The manufacturer says the unit will handle a bottle every three seconds, and do away with carting heavy cases of empties to the basement. Tests conducted by the firm indicate that less than one bottle in a hundred is damaged.

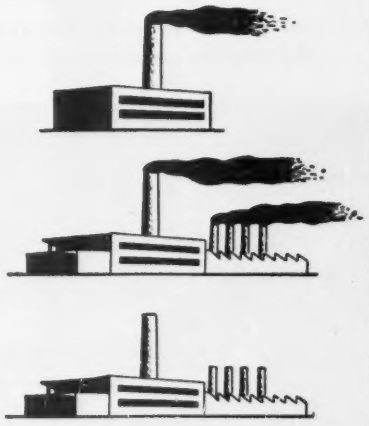
Bottles are pushed through a spring-loaded flap on a plated-steel receptacle, then pass through curved flexible tubing that runs through the floorboards into the basement. A rubber-lined circular slow-down turret breaks the fall of the bottle.

The receiving unit has counter-

going concern !...

going concern !...

gone concern ...



Firm X seemed to prosper from its very beginning. There was an immediate and continuing demand for its products. Its factory was well-directed, well-equipped, efficiently operated.

Then sales took a jump. Orders came pouring in, and the increased volume of business necessitated expansion. More modern machinery was added to the plant . . . new modern methods of production were introduced.

Today Firm X is out of business. True, sales were soaring to an all-time high, but operating costs outstripped them . . . dragged the firm below the "break-even point" before management had any indication they were going under. Inadequate office machines had produced inadequate records and statistics—had furnished too little information too late.

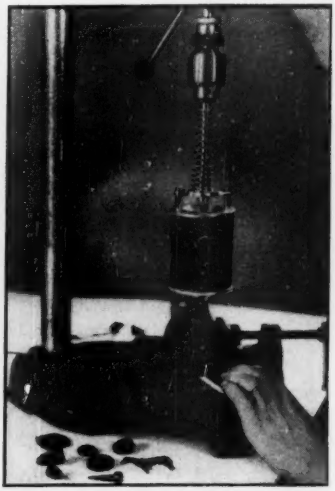
When you replace obsolete figuring and accounting equipment with modern Burroughs machines and methods, you get today's facts *today*. Why not talk it over with your local Burroughs man? He'll show you how fast, flexible and efficient Burroughs machines can produce the information and data you need—*on time*. Burroughs Adding Machine Company, Detroit 32, Michigan.

WHEREVER THERE'S BUSINESS THERE'S **Burroughs**

THE MARK OF SUPERIORITY IN MODERN BUSINESS MACHINES

weighted troughs which automatically route bottles from the tubing to an unfilled rack. The position of troughs and racks makes unloading easy, and prevents bottles from cascading to the bottom rack. The Ken-O-Mat will rack about 600 empty bottles altogether.

The unit requires no maintenance, and may be kept clean by hosing down with water or by occasional scrubbing. • *Availability: immediate.*



Plastics Producer

Home workshops, schools, and small laboratories can now buy a small-scale injection-type molder for Bakelite styrene plastics at low cost. The equipment—made for short runs and experiments—eliminates expensive preparation.

The machine is designed for use with a drill press; it weighs 2 lb. and stands 10 in. high. The heating element plugs into a 110-125-v., a.c. outlet and is thermostatically controlled. Heat range: from 250 to 500F.

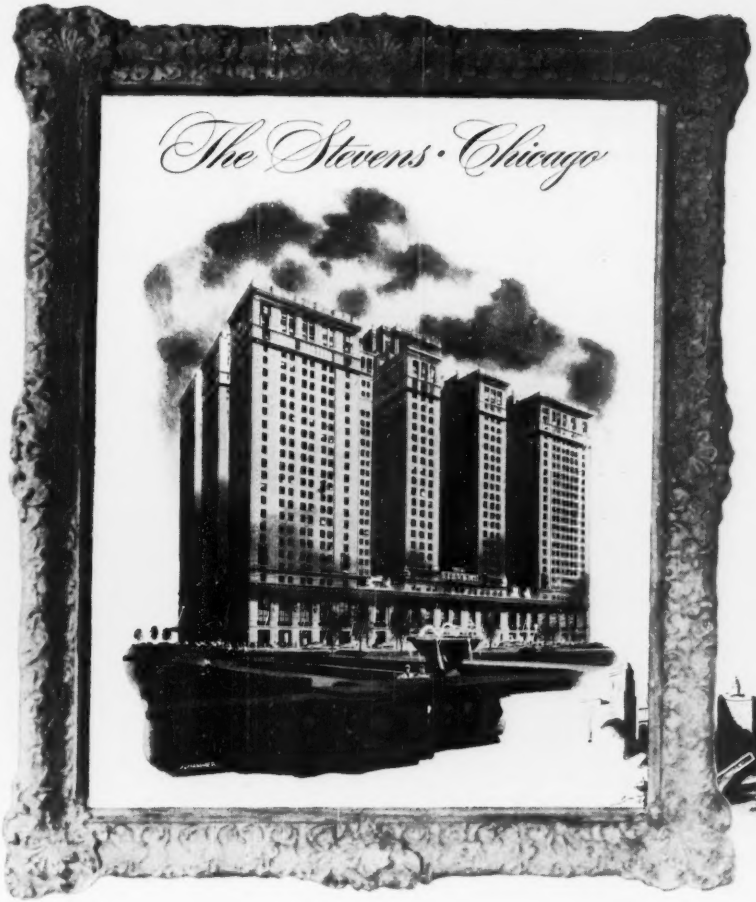
The equipment manufacturer also distributes the polystyrene molding materials and experimental lead dies in a variety of designs. The company is Plastics Development Corp., 225 Lafayette St., New York 12, N. Y.

Availability: immediate.

X-Ray Level Indicator

Measuring the level of corrosive liquid in a large tank is frequently rough on the indicating device. So Instruments, Inc., Tulsa, Okla., has developed a level indicator called the Gagetron that can be used with corrosive fluid.

Here's how it works: A small corrosion-resistant container filled with radium salts floats on the liquid inside the tank. Gamma rays given off by the radium salts are picked up by a Geiger-



...another famous hotel under Hilton operation

The largest hotel in the world is the friendly Stevens, overlooking beautiful Lake Michigan. Its superb facilities, conveniences and services are truly in keeping with high Hilton standards. The Mid-West's greatest Ice Show is featured regularly in the popular Boulevard Room.

Use our new Inter-Hotel Reservation Service or teletype your nearest Hilton Hotel

In Chicago
THE STEVENS *and*
THE PALMER HOUSE
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In El Paso, Lubbock, Texas
THE HILTON HOTEL
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THE HILTON HOTEL
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THE CARIBE HILTON
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Hilton Hotels
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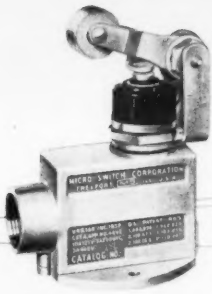
Modernizing for economy?

Consider this MICRO suggestion



for rehabilitating present equipment!

Many an older machine springs back to new life . . . giving increased production and savings in operating costs by the installation of MICRO precision switches to make it automatic, to limit operation, to provide electrical interlocks or safety features.

The new up-to-date features so noticeable on new equipment that make management question the ability of the old are often yours by applying a bit of ingenuity—and one or more MICRO precision switches.

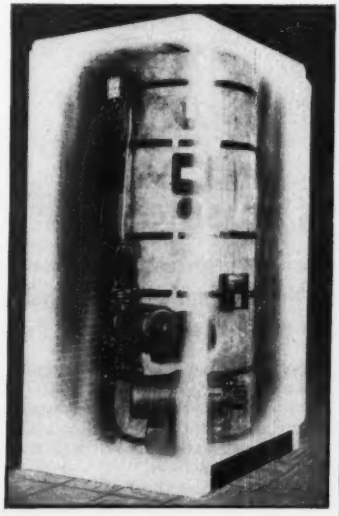
When modernizing your equipment, economy suggests that you have your plant men investigate how MICRO precision switches can put new life and new productivity into the equipment you already have!

For experienced aid in the use of MICRO precision switches, write MICRO SWITCH, Freeport, Illinois. Branch offices: Chicago, New York, Boston, Cleveland, Los Angeles. Sales Representatives: Portland, St. Louis, Dallas, Toronto.

Mueller counter mounted outside of the tank. As the level of the liquid varies, the radiation from the radium-filled float to the counter also varies. This, in turn, operates through electric impulses a paper-tape recorder that prints at the level of the liquid.

The Gagetron will also control its level. If a liquid flowing into a tank is to be stopped at some predetermined level, the radium-salts container is mounted in a fixed position at that point inside the tank. When the liquid reaches the container, it cuts the radiation of the gamma rays to the counter outside the tank. The counter can operate a valve that cuts off the flow. It doesn't matter what metal the tank is made of: Even lead won't interfere with the operation of the Gagetron. The unit is designed for operation from a 90-110-v., 50-60-cycle, a.c. power source.

• *Availability: three weeks.*



Kitchen-Sized House Heater

York-Shipley, Inc., York, Pa., has designed a new oil-fired boiler unit for radiant-heating and hot-water applications. It's larger than some of the company's other models, but it still can be installed in the kitchen.

The boiler provides low-temperature water for radiant coils for panel heating of rooms; it also has a large tankless heater for domestic hot water. Although designed primarily for radiant panel heating, it may be used with all types of hot-water heating systems.

The complete heating plant is housed inside a cabinet which looks like a refrigerator; it is 36 in. wide, 65 in. high, and 32 in. deep.

• *Availability: six weeks.*

FINANCE

A 10-Year Look at Growth in Savings

(In Millions of Dollars)

Dec. 31	In Savings & Loan Assns.	Deposits in Mutual Savings Banks	Time Deposits in Commercial Banks	* Total of All Savings
1939	$4,060	$10,481	$14,865	$55,645
1940	4,272	10,618	15,403	58,988
1941	4,652	10,490	15,523	63,849
1942	4,910	10,621	16,056	75,080
1943	4,494	11,707	19,001	94,004
1944	6,305	13,332	23,871	116,226
1945	7,365	15,332	29,929	135,948
1946	8,548	16,813	33,447	146,700
1947	9,753	17,744	34,694	155,234
1948	11,000	18,390	35,300	163,120

Percentage Gains

	1948 vs. '47	1947 vs. '46	1948 vs. '45	1948 vs. '39
Savings & Loan Assns.	+12.8%	+14.1%	+49.4%	+170.9%
Savings Banks	+3.6	+5.5	+19.9	+75.5
Commercial Banks	+1.7	+3.7	+17.9	+137.5

** Includes, besides figures given, accumulations in life insurance companies, postal savings, current redemption value of U. S. Savings Bonds outstanding.*

Fight for Savings Business

Savings and loan associations have grown faster than banks in recent years. But bankers charge they are misleading the public into believing they are the same as savings banks.

Everybody knows that personal savings have been bulging since the war. But not all of this national nestegg has been going into banks, bonds, or life insurance.

• **Leader**—In fact, the most spectacular gainers have been the savings and loan associations. They are out in front by a big margin (table).

From 1946 to 1948, public investment in savings and loan shares went up an average 14.3% a year. The runner-up, life insurance, showed an average growth in policy reserves of only 8.2%. Savings-bank deposits increased by an average of only 6.3%; commercial-bank time deposits, 4.6%; postal-savings deposits, 4.6%; and individual holdings of U.S. savings bonds, 3.5%.

• **Why**—The popularity of the savings and loan associations is due to:

(1) Heavy advertising and promotion campaigns; and

(2) A higher return on savings (2½% to 3½%, compared to the savings banks' 1½% to 2%).

• **Attack**—The banks aren't happy over the situation. In fact, they're hopping mad. They say that the savings and loan growth is due in large part to "unfair" competition; that the savings and loan organizations have been falsely "trying to give the impression that they are banks of deposit."

The American Bankers Assn. maintains that the Federal Home Loan Bank Board, which supervises savings and loan associations, is just as guilty. Last week, ABA charged that the board is openly trying (1) to mislead the public about the character and functions of savings and loan associations, and (2) to do by regulation what Congress won't do by legislation.

• **Proposal**—What brought forth this blast was a set of new regulations over savings and loan associations proposed by the board. Under them, ABA charged, all members of the Federal Savings & Loan System could

(1) Call themselves "federal savings associations."

(2) Describe their shares as "savings accounts."

(3) Issue "certificates of deposit."

(4) Widen the field in which they

may make loans (under present rules, their loans must be secured either by their own shares or by first mortgages on homes or combination home-business properties).

(5) Open branch offices anywhere.

• **Demand**—ABA demanded that the board "withdraw . . . and redraft" its new code. By midweek, the board had not yet replied. But bankers don't have to wait long before they find out the result—one way or the other—of the protest. The new rules were published in the Mar. 11 issue of the Federal Register. Thus, they are scheduled to go into effect on Apr. 11 unless withdrawn as a result of ABA's protest.

Savings and loan circles were quick to label ABA's protest as an "unfair, unscrupulous, and concerted attack," motivated by jealousy. The New York State Savings & Loan League called it "an attempt by the banks to cover up their failure to furnish the people with the thrift and home service they need."

• **Basis**—Obviously, the ABA attack wasn't prompted entirely by altruism. Nevertheless there does appear to be a basis for its charges. For there is a fundamental difference in status between a man who has money in a savings account and one who owns savings and loan shares. And many of the savings and loan associations seem more and more anxious to gloss over that difference.

For instance, some savings and loan companies talk in their ads of "savings accounts." In such ads—and on the windows of their offices, too—the "and Loan" part of their titles often is in much smaller type than the "Federal Savings . . . Assn."

• **Differences**—Such actions undoubtedly tend to give the impression that a savings and loan investment is virtually the same thing as a bank savings account. Actually, however, only banks can accept "deposits." And, in the accepted sense of the word, only banks have "savings accounts." Money put into a savings and loan association is not a deposit; it's purely a purchase of the company's stock. Any "passbook" the association issues represents nothing but evidence of stock ownership.

Nor do savings and loan companies pay "interest" on their "savings accounts"—though their ads often say they "have never paid less than x% on savings accounts." Their payments to shareholders are purely dividends.

• **Withdrawal**—Another big difference: Savings and loan associations are not obliged to redeem their shares in cash on demand. It's true that banks, as well as savings and loan companies, can require written notice of intention to withdraw funds. But once notice has been given, the bank must pay cash in full if it doesn't want to be declared in-

solvent. If it hasn't enough liquid funds to pay off, it must cash in some of its investments to get them.

But a savings and loan association has the right to pay such withdrawals only from cash receipts—or even from only a portion of such receipts. If there isn't enough to pay off all the shareholders who want their money, then the shareholders just have to wait.

• **Liquidity**—Because of this factor, banks with large savings accounts must maintain a high degree of liquidity. That means they must put their money into readily marketable investments—which offer comparatively low yields.

Savings and loan companies' investments are limited by present regulations to government bonds, securities of a Federal Home Loan Bank, loans against their own shares, or first mortgages. But because they aren't obliged to pay off on demand, they can afford to sink the major part of their funds in the comparatively nonliquid mortgages—and most of them do. That, by the way, explains how they can declare dividends at a higher rate than savings-bank interest; mortgages pay better than most savings-bank investments.

• **Insurance**—Savings and loan companies like to point to the fact that their shareholders are insured up to $5,000, just like savings-bank depositors. But there's a big difference here, too. If a certain depositor in a failed bank doesn't want to take an equal account in another, solvent bank, he can demand—and get—immediate cash. But if a shareholder in a failed savings and loan association isn't willing to accept equal shares in a solvent association, the best he can get is 10% in cash. He must take half of the remainder in noninterest-bearing debentures due within a year, the other half in similar debentures due within three years.

• **Acceptance**—According to ABA's protest to the Home Loan Bank Board last week, it has "never been opposed to a sound savings and loan system, soundly administered." It agrees that there's a "proper place in the financial structure of this country" for such a group, which "can make a substantial contribution to the growth and development of home ownership by people of moderate means."

But ABA doesn't think the public should be misled into believing that such associations are "deposit institutions"—at least, not as long as:

(1) They are "not required to main-

Express Strike Slows Airborne Checks

The Railway Express strike in New York is giving bankers a headache. The Federal Reserve Bank of New York had been shipping checks by air express to other federal reserve banks and their branches to make funds available more quickly. Now the New York Federal has to use air freight (slower than air express) for shipments to nearby banks; checks bound for distant banks go by air parcel post. Here checks in fire-resistant bags are loaded aboard a plane. Biggest day the New York Federal had before the strike was last Dec. 14, when it shipped by air about 1-million checks, weighing close to two tons. The bank estimates clearing the checks by air gave Federal Reserve Bank members an extra $86-million a day during December.

tain the liquidity that savings banks are required to maintain"; and

(2) Holders of their shares "do not have the right under all circumstances to withdraw their funds on request."

Oil Company to Give Insurance With Stock

Here's one way to take the risk out of risk capital. The recently formed American Oil Explorers, Inc., wants to issue stock to finance speculative oil exploration. If the Securities & Exchange Commission doesn't object, the company will hand over paid-up life insurance policies to stock buyers. The face value of each policy will equal the purchase price of the stock an investor purchases.

• **Money Back**—So even if the oil venture doesn't pan out, each stockholder will get his money back eventually—that is, his beneficiary will.

The company wants to offer 5-million shares at $1 each. It expects to net $4,337,500. About half of this would go to buy the insurance. The rest would be used to look for and develop oil fields.

• **Limitations**—You could get this insurance without medical examination. But there are a couple of limitations. You must be between 11 and 50 years old. And you have to buy at least $250 and not more than $2,000 worth of stock.

American Oil Explorers will buy the insurance from Standard Life & Accident Insurance Co., a small insurance underwriter with offices in Oklahoma City. The company will make a single-premium payment. Rates run from $325.14 a $1,000 for an 11-year-old to $616.91 for a 50-year-old.

Tellier & Co., New York, will handle the issue, if it gets SEC clearance.

Liquid Savings Down In 1948, Says SEC

Liquid savings of individual's dropped sharply last year, the Securities & Exchange Commission said this week. SEC figures that they came to only some $4.9-billion in 1948. That's $3.4-billion less than in 1947, and about the same as what individuals tucked away in liquid form as far back as 1940.

• **More in 1948**—Non-liquid savings, however, were a hefty $30.4-billion. So altogether, SEC points out, individuals actually "added more to their total assets in 1948 than in 1947."

Liquid savings, as defined by the commission, include cash, bank deposits, government bonds and life insurance. Non-liquid savings are the

building of new homes, purchases of durable consumer goods, and the growth in inventories of farmers and unincorporated businesses.

• **Liquid Savings**—Cash and bank deposits owned by individuals at the close of 1948, thinks SEC, added up to about $130-billion—$1.4-billion less than at the end of 1947. Currency holdings of individuals, it is estimated, were some $24-billion. Another $50-billion was accounted for by checking accounts. The remaining $56-billion was in savings or time deposits.

Individuals' holdings of U. S. government bonds, SEC reports, rose some $1.4-billion to around $70-billion. And John and Mary Doe also added about $3.5-billion to their equity in government insurance and pension reserves; $3.4-billion in private insurance; $1.1-billion in savings and loan associations (page 86); $2.8-billion to their holdings of other non-government securities.

• **Non-Liquid Savings**—Some $7.7-billion of last year's increase in non-liquid savings was via investment in new homes. And in 1948 individuals hiked their purchases of durable consumer goods to around $22.7-billion ($21-billion in 1947).

As might be guessed, the indebtedness of individuals didn't stand still during 1948. Mortgage debt, for example, rose some $3.7-billion. Up another $2.3-billion, also, was other consumer indebtedness.

Heads American Optical

Trustees of American Optical Co., Southbridge, Mass., last week elected Walter A. Stewart to be president. Stewart has been a trustee and vice-president. He succeeds George B. Wells, who resigned after serving 12 years as president. Stewart joined American Optical in 1935.

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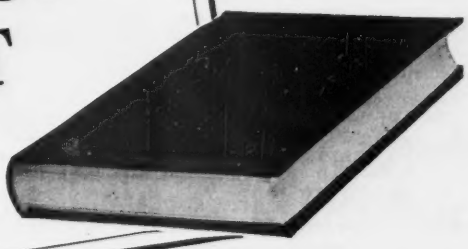

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Bigger Yields

Life-insurance companies' investments are paying off a little better—but not enough to lower rates.

The yield on life-insurance companies' investments went up last year instead of down—the first time in 20 years that has happened.

True, figures that insurance men were studying last week showed that the rise was slight—but at least it pushed the average rate of return above the 1947 record low of 2.88%. Last year's average was 2.96%, the highest yield since 1945. And the Institute of Life Insurance has even more cheering news for the life-insurance policy holders: Its researchers think the same factors that caused the 1948 upturn "may be expected to have a further effect on the earning rate this year."

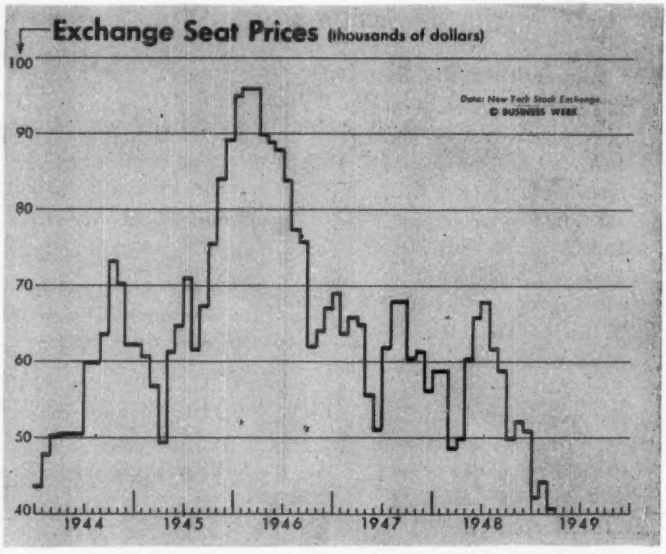
• **Major Factors**—Part of the rise is due, of course, to the slight firming of interest rates generally. But these other two important factors were also at work:

NEW CHANNELS of investment. Many of these have been developed by the life companies in recent years—such as the purchase of income-producing real estate (stores, office buildings, industrial plants), rebuilding the volume and profits of policy-loan departments, construction of rental-housing developments.

A SHIFT in investment portfolios. This produced a drop of about $3-billion in insurance companies' government bond holdings (with a maximum yield of only 2.50%) and a large rise in holdings of better-earning investments.

The upturn in average yield has encouraged life-insurance men, but they hope the trend will go a lot further. They point out that the 1948 rate is still about 25% below the average 4.10% earnings rate of the 1930's, that it is little better than half the 5.25% rate earned in 1925.

• **Meaning**—This has meant a vast difference in the dollar earnings of the life companies. If last year's percentage yield had been at the rate of the 1930's, insurance companies would have earned $500-million more than they actually



Seat Prices Show Brokers' Dim View of Future

The price of a seat on the New York Stock Exchange is an index of what brokers think of the long-range outlook for volume of stock and bond sales. At the end of March, their opinion of that long-range outlook had been pessimistic (chart). The index was at a five-year low, under the level of early 1944. But this week a seat changed hands at $47,000, up $7,000 from the last previous sale. This was still quite a contrast with the record high of $625,000, for which a seat sold early in 1929. But it was quite a bit above the bottom of $17,000, which was reached in the spring of 1942, about the time of the fall of Bataan. That was a record low since 1897.

did in 1948. Obviously, such low yields in recent years have raised the cost of life insurance to policyholders, though not so much as you might expect. The institute says that the improvement in mortality among policyholders has somewhat offset the decline in yield.

As for last year's recovery, the trade figures it isn't big enough to warrant any hopes for a drop in life-insurance rates—in the near future.

FINANCE BRIEFS

State sales tax collections hit a new high of $1.5-billion in 1948. The Federation of Tax Administrators says that's 19% higher than 1947, nearly thrice the prewar level.

•

American Research & Development Corp., leading "venture capital" company (BW—Feb.19'49,p6), will soon offer publicly 165,500 shares of new common. Price: $25 a share.

•

Recent drop in bank loans is causing some shading of interest rates by Manhattan banks.

•

Playboy Motor Car Corp., whose first try at financing went sour (BW—Oct. 30'48,p106), is making another stab. It has asked SEC to O.K. a plan to raise about $3-million by issuing 1-million Class A common shares (par $3), 1-million Class B shares (par 5¢). New York's Aetna Securities Corp. would handle the issue.

•

New York State has just retired the last of $45-million World War I bonus bonds sold about 25 years ago. Their cost in interest alone: some $25-million.

•

Distillers still need a lot of new money. Schenley Industries has just sold $75-million of 20-year, 3.2% notes direct to a life-insurance group; National Distillers may soon sell publicly another $40-million of bonds.

•

The Missouri-Kansas-Texas says it will soon offer a plan for funding interest arrears on the railroad's $13-million of income bonds. Arrears now come to some $5-million, or $35 per $100 bond.

•

Bell Telephone of Pennsylvania is asking underwriters to bid on $25-million new 25-year debentures.

•

The Chesapeake & Ohio has just sold 46,700 shares of Erie common for some $607,000, or $13 a share. The holding was carried at a book value of $2,886,000; the C.&O. stood the loss for tax purposes.

THE MARKETS

1 Many spot commodity prices have come down sharply in the last 15 months . . .

(Percent Change Since January, 1948)

Tallow	− 78%	Cocoa	− 56%	Print cloth	− 50%
Burlap	− 28%	Hides	− 23%	Wool	− 23%
Steel scrap	− 19%	Rubber	− 18%	Flaxseed	− 14%
Cotton	− 9%	Silk	+ 4%	Lead	+ 7%
Copper	+ 9%	Tin	+ 10%	Zinc	+ 35%

2 But most are still well above levels of the last days of OPA . . .

(Percent Change Since June, 1946)

Tallow	− 44%	Cocoa	+116%	Print cloth	+ 24%
Burlap	+ 37%	Hides	+ 57%	Wool	+ 10%
Steel scrap	+ 68%	Rubber	− 16%	Flaxseed	+ 82%
Cotton	+ 5%	Silk	− 12%	Lead	+ 96%
Copper	+ 65%	Tin	+ 98%	Zinc	+ 72%

3 Most are a good bit higher than they were before Pearl Harbor . . .

(Percent Change Since November, 1941)

Tallow	− 53%	Cocoa	+114%	Print cloth	+ 72%
Burlap	+ 41%	Hides	+ 57%	Wool	+ 13%
Steel scrap	+ 68%	Rubber	− 16%	Flaxseed	+225%
Cotton	+ 88%	Silk	− 12%	Lead	+171%
Copper	+ 97%	Tin	+ 98%	Zinc	+ 74%

4 And they still are very high in terms of what they were before the European war . . .

(Percent Change Since August, 1939)

Tallow	+ 12%	Cocoa	+343%	Print cloth	+200%
Burlap	+184%	Hides	+130%	Wool	+ 71%
Steel scrap	+127%	Rubber	+ 12%	Flaxseed	+293%
Cotton	+276%	Silk	+ 4%	Lead	+244%
Copper	+123%	Tin	+114%	Zinc	+313%

Industrial Materials Cost Less

The drop in industrial raw material prices is getting to the point where it makes a real difference in business costs. And to anyone unlucky enough to be sitting on big inventories it's a real threat to profits.

• **Start**—The first significant breaks in commodity prices came in the early part of 1948. Today, most commodities—with the notable exception of the metals—are selling anywhere from 9% to 78% below their January, 1948, level (table).

The metals kept on climbing through most of last year. But in the past few weeks they, too, have started to go. Lead has dropped from a peak of 21½¢ a lb. to 16¢. Zinc has come down from 17½¢ to 15¢. And the copper market is holding its breath.

Basic steel prices still are holding steady, but warehousemen are shading prices on some steel products. The market for steel scrap, traditional barometer of the industry, has broken wide open.

• **BLS Index**—The Bureau of Labor Statistics index of industrial raw material prices now is down to 245.6. At its peak, on Dec. 24, 1947, it hit 296.7. The drop figures out to 17%. And at its present level the index is lower than it has been at any time since the big jump that followed the removal of OPA controls in 1946.

The BLS index of 28 commodity prices (which includes imported materials and farm and food products as well as industrial raw materials) is down to about 252. At its peak, Nov. 29, 1947,

it hit 359.1. That's a drop of about 30%.

The big question for businessmen now is: Where will prices go from here?

There aren't any pat answers to that one. But you may get some ideas by comparing present prices with the old OPA ceilings and with prewar levels.

• **Whither Prices?**—Nobody expects prices to go back to prewar. Historically, you never get all the effects of a serious inflation out of the price system. Some of it always grows into the permanent structure.

Hence, you can assume tentatively that the level of long-run stability for most commodities lies somewhere between present prices and the old OPA ceilings. If that's true, then many prices already are over a large part of their deflation.

You have to remember, too, that there will be changes in the relation of particular commodities to the general price level. A high-employment, high-income economy takes a lot of metals, for instance. Theoretically at least, you could expect the metals to show smaller drops in the long run than most other commodities.

MARGIN AFTERMATH

When the Federal Reserve Board cut margin requirements last week (BW—Apr.2'49,p90), Wall Street's bears grumbled that it would make no difference to stock prices. For the short run anyhow, they were right.

• **Two-Day Special**—The "lower-margins rally" that got under way last week played out in only two days. Since then, profit-taking has been whittling away the gains in most issues. And this week the market was drifting along in the aimless way that has become painfully familiar in the past three years.

This reaction was a disappointment to most traders, but not a surprise. Lower margin requirements by themselves don't make a market. And neither does another factor that has been getting a lot of publicity lately—common stocks priced for less than their equity in the net current assets of the company.

Stocks selling below their theoretical liquidation value always look like fantastic bargains. But traders don't buy stocks for liquidation. They buy for going-concern value. And a real uptrend in stock prices can't get under way until traders feel that (1) the business outlook is at least reasonably bright; and (2) current stock prices are "cheap" in comparison with earnings and dividend expectations.

• **No Confidence**—Today traders don't feel any confidence on either point. Thus, the "bargains" in terms of current assets are no bargains to them.

Wall Street's pessimism has many causes. Here are a few:

Heavy, high-cost inventories and their vulnerability to drops in commodity prices;

Frozen-in costs and high break-even points, and the effect they would have on profits if sales volume drops much;

Signs indicating that the postwar capital-expansion boom has passed its peak (page 26);

Appearance of buyers' markets suddenly in more and more lines that seemed years behind demand;

Attitude of the Administration on taxes, controls, anti-trust, and other business matters.

And after all, you can't expect Wall Street to be happily unconcerned when businessmen generally are uncertain and wary. Only last week, a steel-scrap man came out of a meeting in Chicago and reported tersely: "There are more bears in there than any place east of Yellowstone Park."

NEW ISSUES STILL SLOW

The corporate new issues market has become so quiet lately you can almost hear each share drop. Flotations slated for sale this week came to only $30-million or so. Last week they were but slightly higher.

• **Pricing Problem**—But the drop in activity to such levels hasn't been the only thing that has worried the underwriting trade lately. Some recent offerings haven't been priced realistically. And this has slowed up sale to investors.

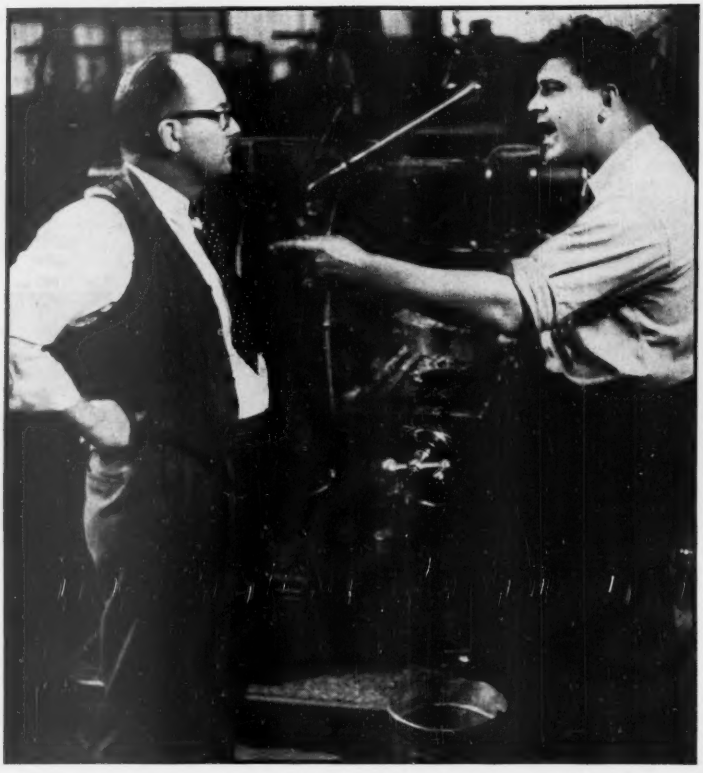
Since then, however, the syndicates handling two prominent slow deals have disbanded. This has permitted the development of a "free market" for the issues in question ($20-million Columbia Gas System deb. 3s, 1974 and $10-million Wisconsin Electric Power 2⅞s, 1979). They are moving out into circulation satisfactorily now—but at levels under the original offering price.

• **Private Placements**—Sales of new issues via the private-placement route are continuing at a rapid pace. This week four such seller-to-buyer deals involving the sale of some $165-million of new bonds and notes were announced.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	146.9	149.7	146.5	150.3
Railroad	40.0	40.5	39.8	45.5
Utility	71.3	71.6	70.2	68.7
Bonds				
Industrial	97.2	97.5	97.1	94.3
Railroad	81.4	81.4	84.8	82.6
Utility	95.5	95.7	95.2	96.5

Data: Standard & Poor's Corp.



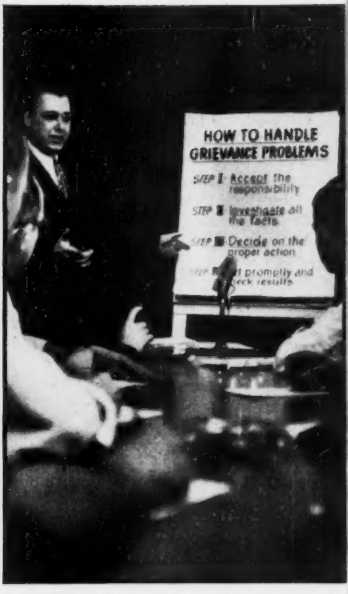
1 "Damn it," the irate employee at ATF, Inc., yells at his foreman in the familiar way a grievance is initiated almost everywhere, "I'm getting a bum deal"

2 "And furthermore . . . ," he goes on, while his foreman, who knows there must be an answer, is tongue-tied

3 "I co there a

Handling the Gr

6 "It happens out there all the time," the foreman reports to his superior—and how well management knows it. In getting supervisors to handle grievances effectively, ATF had the same problem that most employers have experienced. That's why the company sought a better way to make each foreman a human-relations expert

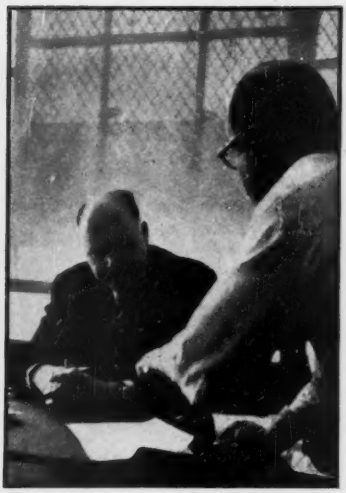


7 ATF thinks it has found the answer in role playing: a development in psychotherapy which the company aims at its specific training objectives

8 irate as he

3 "For umpteen years . . . ," the complaint continues, while the foreman just stands there and takes it from the worker

4 "Now, whatcha gonna do about it?" the employee demands. Thrown for a loss, the foreman is silent

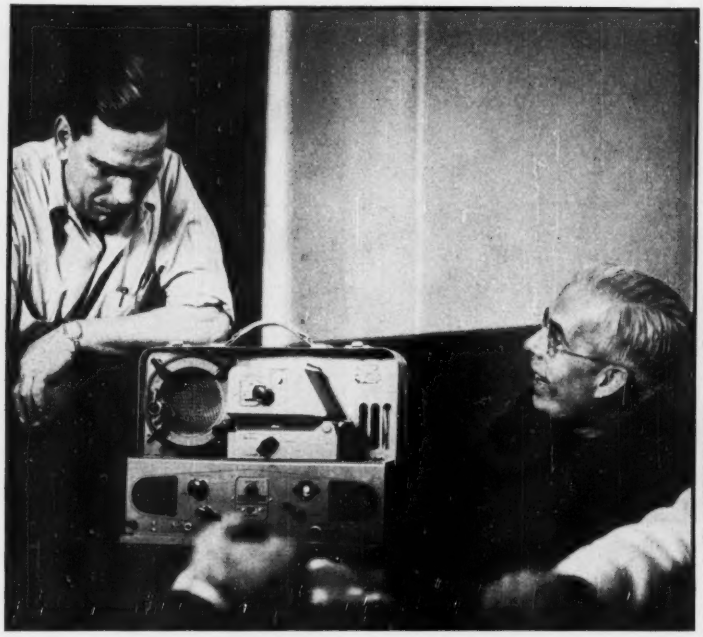


5 "How do I handle this hot potato?" the foreman asks his labor relations chief at the Poughkeepsie plant

Grievance Problem—by "Role Playing"

8 Role playing is a modern version of childhood's play-acting—with a serious purpose. Here the foreman acts out the role of the irate employee, pouring it on a younger foreman, who handles his part as he would do it in the shop

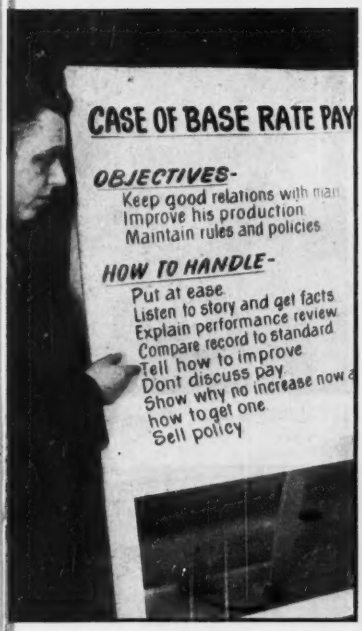
9 Still acting as the aggrieved employee, the foreman tries the routine on a supervisor who is an old hand. Unabashed, the old-timer mobilizes his experience, lays his argument on the line like the capable veteran he is (TURN TO PAGE 98)



10 The old-timer and younger foreman hear a recorded playback of their exchange with the griever. They are critics of each other and of themselves. This gives them a chance to stand off and check their own performance, see what they did wrong

12 The old-timer comes out pretty well; experience usually gives him an edge in play-acting shop problems

13 The younger man hasn't satisfied himself; but he understands better where he went off the track with his arguments

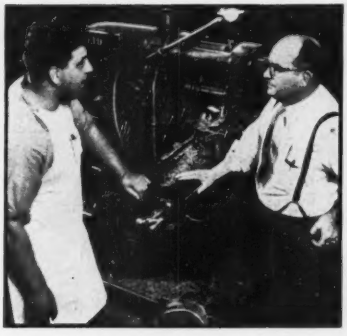


11 How they have handled their parts is measured against company standards for best ways to settle grievances

14 A discussion, led by training experts, clarifies what good practice is, how it's best achieved (TURN TO PAGE 100)

ROLE PLAYING (continued from page 99)

15 "I get it," the foreman who was stymied says, after he sees how it's done and has had a chance to act it out before a panel of fellow foremen



16 "Well, what about it?" the griever wants to know. "What gives?"

17 Now, sure of himself at last, the foreman can handle man and problem

18 He gets his point across, and the employee understands him and company policy. Role playing has made this supervisor confident and competent

Act It, Learn It

That's ATF's system for training supervisors to handle grievances on the spot. Result: quick settlement, better output.

Something new is being added to many foreman training programs. It's a grown-up form of "let's pretend," known technically as role playing.

• **New Use**—In role playing, supervisors act out a situation involving a human relations problem. They have no script, no rehearsal.

The basic principles are centuries old. Companies have used them for years to teach salesmanship. Psychotherapists are employing them to good purpose. But it took role playing a long time to move out of industry's sales-training rooms into industrial-relations offices. The extension stems, in part, from studies made by Alex Bavelas of the Massachusetts Institute of Technology. And it's a result, too, of industry's search for an answer to an important question: How can we keep individual grievances from building up into labor-relations problems?

• **Do and Learn**—The best solution that has yet been found is a supervisory staff that knows how to handle workers. But training such a staff isn't at all easy; standard techniques—manuals, conferences, discussion groups—don't do the whole job. To get the right sort of social skill, the foreman often has to have practice, and a lot of it. That's where role playing comes in.

Learning by doing is a good way to learn. But if a supervisor does his practicing in daily plant-floor contacts with workers, a mistake can be terribly costly. So, instead, the foreman-trainees practice on each other by role playing.

• **ATF Experiment**—One of the first companies to see what role playing could do for employee relations was ATF, Inc., of Elizabeth, N. J., which owns American Type Founders and several other companies. President Thomas Roy Jones wasn't entirely satisfied with results of supervisory-training work in ATF subsidiaries. Mostly, these training programs were based on case discussions at conferences. But, Jones complained, supervisors weren't putting into practice the principles and procedures worked out in these conferences. Too many grievances were wasting higher management's time when the man who could—and should—settle them was the foreman.

Top officials got their heads together, decided to add controlled practice—or role playing—to supervisory training in ATF companies.

Allen H. Tyler, training adviser at

ATF's home office, set up the company's present program. He used the Bavelas studies as a basis, borrowed some procedures tested in Owens-Corning Fiberglas Corp.'s experiences with role playing.

• **In Operation**—Here's how the ATF plan works:

(1) The staff-training department calls a meeting of the foremen to set up principles for handling a certain type of case.

(2) A foreman is briefed to be the "worker" in the role playing—usually from actual case histories of labor disputes.

(3) Two other foremen, one at a time, are called on to hear the "worker's" grievance, and deal with it.

(4) Recordings of the discussions are played back, and criticized by the two foremen-players first, then in open discussion.

(5) The group then decides how the grievance should have been handled. If there's time, a foreman and "worker" play the roles that way.

• **A Lot of Foolishness?**—ATF set up its first role-playing program at its subsidiary, Frederick Hart & Co., at Poughkeepsie, N. Y. Supervisors weren't sure they liked the idea, at first. They got the jitters when they had to act a scene. They said it was a lot of foolishness. But, after the second or third session, they changed their minds. The men began to get a kick out of the two-hour sessions, held on company time. Instead of hanging back, they began to volunteer for roles; a competitive spirit made role-playing sessions livelier—and more profitable.

• **Results**—About that time, ATF began to note a pickup in on-the-spot handling of grievances. It noticed other things too: Quality and quantity of production rose; supervisors began to speak up at meetings with other management men.

That was about a year ago. According to Tyler, the improvement has continued. He's thoroughly sold on role playing; so are Jones and the other company executives. And even the die-hards among the ATF supervisors have withdrawn their adverse criticism of the program and now admit its value.

• **Slow Going**—Last to agree was a tough old-timer—an A-1 machine man who ran his battery of machines and crew of men as equals. The first time this foreman played, he had to handle a charge of carelessness: A "worker" had dropped a wrench into a machine, damaging it. The foreman fired him in five acrid sentences.

Then the old-timer watched while another supervisor took over the same role. The new man reprimanded the "worker" and showed him the right way to handle a wrench. After the playback, the old-timer still insisted he was right:

A dope who damaged a machine ought to be fired. But the group voted him down; it decided a reprimand and short layoff would be enough penalty for a first offense. At this point, the old-timer relented a little—maybe he had been too rough. Since then, Tyler reports, the foreman has mended his ways somewhat. Tyler credits the role playing with the change.

• **On the Spot**—Tyler believes the great value of role playing is this: Supervisors learn, by practice, to think on their feet. They never know what the "worker" will say next, hence they learn to make quick decisions under realistic pressure and anxiety. Then, too, they learn by seeing how others cope with situations. And—when they act an employee's part—they put themselves in the place of a worker and see his point of view.

Other companies have had much the same experience. Role playing is firmly set in training programs at Owens-Corning, Armstrong Cork Co., General Foods Corp., Sharp & Dohme, Inc., Esso Standard Oil, and elsewhere. The Michigan Industrial Training Council recommends it to its member-training directors. The American Society of Training Directors recently gave considerable time at a convention in Cleveland to a demonstration of the technique.

• **Union, Too**—At least one union has adopted role playing. The Pulp, Sulphite & Paper Mill Workers (A.F.L.) uses it to teach shop stewards how to handle workers who fancy they have a grievance, and how to put grievances effectively to foremen.

Role playing is now being studied at Cornell and Harvard, as well as at M.I.T. The latter has just issued Bavelas' latest report—"Role Playing and Management Training"—in booklet form. It was published by the Dept. of Economics & Social Science, Massachusetts Institute of Technology, Cambridge, Mass.

BLS' Clague Clarifies: C.-of-L. Won't Drop 10%

Now is the critical warm-up period for fourth-round wage negotiations. Management and labor leaders are alert for any data that bear on the relationship of wages and living costs.

That's why a published statement last week by Ewan Clague, director of the Bureau of Labor Statistics, created a stir in the midst of union-management pre-negotiating maneuvers. Clague was quoted as predicting a 10% drop in the cost of living during 1949.

• **False Alarm**—But while management and union analysts got to work on Clague's estimate, the BLS head said he had been "misunderstood." He doesn't really think that prices at retail "will

come down anything like 10% from present levels" by the end of 1949. The decline, if any, will be much less, he said.

Here's his explanation:

"The impression which I intended to convey was that consumers' retail prices after World War II would not decline as sharply or as far as they did in 1920-21, when there was a drop of 20%. I indicated . . . that 10% during the next few years might be the outside limit of decline down from the 1948 peak. In fact, I emphasized that rents and certain other components of the consumers' price index might rise, thus counteracting possible further declines in food and other items."

• **The Original**—In his original statement, Clague said that food prices should continue downward, unless the international situation or weather buoyed them up. The remarks were made in a speech to the International Assn. of Public Employment Services, at Philadelphia.

Coal Warm-Up

Operators getting their negotiating team ready to take on Lewis. Southerners plan a tough attitude.

Bargaining lines are tightening in the coal industry: Contract talks start next month. The big issue will be a United Mine Workers demand for a shorter work day—probably a six-hour day, portal to portal—without loss of pay. Operators will balk at such a demand as they will balk at any other proposal that would push up production costs in the face of a slackening market.

The result may be the toughest coal negotiations since 1933—and another coal strike.

• **Groundwork Talks**—The Southern Coal Producers' Assn. met this week to lay the groundwork for 1949 contract talks with John L. Lewis' union negotiators. The group, headed by Joseph E. Moody, is made up of operators whose mines turn out a third of the nation's bituminous coal. And it's often the organization that does the hardest bargaining with U.M.W.

The southern group went over many of the questions it expects to meet during contract talks. One big one: How united will coal operators be when they face Lewis at the bargaining table?

Soft-coal operators are generally grouped into four major outfits: the Southern Coal Producers' Assn.; the Eastern Bituminous Coal Assn.; a loose-knit organization of northern mine operators; and the "captive mines" operated by steel companies. In recent years,

Charles O'Neill was ex officio spokesman for all four in bargaining sessions; he also helped coordinate—as much as possible—their programs and negotiating policies. But O'Neill died several weeks ago. So far, his job as soft-coal spokesman is wide open.

• **Southern View**—The southern operators would like to draft the 1949 bargaining program for the industry. Their candidate for chief negotiator is their own Joseph E. Moody. They favor a tough policy toward U.M.W. Members of their association have felt the sharp pinch of slackened coal business. Recent changes in coal freight rates, they say, have hit them harder than they hit northern operators.

But, most of all, the southerners want a united bargaining front. So, according to Moody, the group is moving slowly; it wants to see "what other segments of the industry will go along with."

• **Softer Voice**—The high demand for steel in recent years has caused the bargaining representatives of "captive mines" to be less tough. They didn't want to risk a big coal shutdown that would cripple steel operations in a hurry. There are signs that the "captive" group may steer clear of joint bargaining this year. If so, it may settle through a compromise. Harry Moses, president of U.S. Steel's H. C. Frick Coke Co., is the man who usually deals with Lewis.

Other northern operators tend to line up with the "captive" group. Their representative this year will probably be George Love, president of the Pittsburgh Consolidation Coal Co.

• **Eastern Group**—J. William Wetter, of Philadelphia, president of Rockhill Coal Co., will succeed O'Neill as representative of the Eastern Bituminous Coal Assn.

Since he was closely associated with O'Neill in recent bargaining with Lewis, Wetter will move into one of the key bargaining seats in 1949 negotiations.

Representatives of the various soft-coal groups will get together at conferences in the next three weeks. The aim will be to try to find common ground on which to meet the union.

• **Union Ready**—Meanwhile, Thomas Kennedy, U.M.W. vice-president, shed further light on the top union demand—shorter hours. He told Pennsylvania miners this week that "hours should now be readjusted . . . to stabilize production, spread and equalize employment." Another speaker warned miners to "save your money and tighten up your belts" for a spring showdown.

• **Stockpile Prospects**—The recent two-week coal "memorial" stoppage cut about 16-million tons of soft coal out of a 67-million-ton stockpile, the National Coal Institute says. If production continues normal, the stockpile should be 85-million tons when contracts end on June 30.

SIGNING UNITY PLAN, consolidation committee chairmen, A. R. Samson, seated left, of B. L. F. E., and T. J. Bulkley, of B. L. E., with aides, wind up negotiations on . . .

One Big Union for Two?

If members approve, the rail brotherhoods will join forces as the Brotherhood of Locomotive Engineers & Firemen. It could mean stiffer bargaining with management on wages, grievances.

One of the oldest and politest jurisdictional disputes appears headed for settlement. It's the tiff between the 86-year-old Brotherhood of Locomotive Engineers, and the 75-year-old Brotherhood of Locomotive Firemen & Enginemen. Negotiators for the two have just worked out a plan to settle things peacefully—by merger.

And as important as any consolidation of the unions themselves would be the dumping into one pot of two old and wealthy insurance and welfare programs that, in a lot of ways, differ widely.

Details of the merger and ballots will go out to 190,000 members of the two brotherhoods within three weeks. A majority of the membership of both unions will have to O.K. the plan before it can go into effect.

• **Economies**—The plan won't be made public until the ballots are mailed. But chairmen of the two nine-man committees say it would save about $5-million annually. Between $500,000 and $1-million would come from savings in salaries of rival organizers; each union now maintains about 120 men in the field.

The plan would also slash administrative costs, from top to bottom.

But the biggest advantage, as committeemen see it, would come from having one brotherhood instead of two. This would be particularly important, they say, during dealings with railroads on wages, working conditions, etc. Committees from the two brotherhoods agree that past competition weakened the two at the bargaining table.

• **History**—Railroad enginemen have talked about consolidation for two decades. They got nowhere, though, until Apr. 1, 1946. Then Russ Walker, former Erie R.R. fireman and one-time secretary to president Dave Robertson of B.L.F.E., started things rolling. He banded together 62 other firemen and enginemen in Buffalo, organized a committee to plug for a merger.

Walker's Consolidation Committee of Enginemen recruited 400 members with little trouble. But from there on, it was strictly an uphill drag. A lot of members in both unions bitterly opposed a merger. To add to Walker's woes, left-wingers seeped into the committee and threatened to take over.

• **Success**—Resolutions calling for a merger lost 6 to 4 at a B.L.E. convention in March, 1947. The anti-merger faction thought that ended the fight. But late in a long day's session a 10-word resolution squeezed through, be-

cause few delegates, of the 258 on the floor, saw its importance. In effect, it said that if the B.L.F.E. would name a consolidation committee, the B.L.E. would, too. The anti-merger forces didn't realize, until too late, that the door to consolidation was ajar.

Soon the B.L.F.E. named its committee of nine to meet with a similar group from the B.L.E. The first formal session was held on Oct. 13, 1947. Since then, the 18 committee members have drawn $30 pay per calendar day. There has been a lot of other expense, too—most of it for high-priced legal and actuarial advice on insurance plans. There's no doubt that these costs have smoothed the way for consolidation; they have added urgency to the deliberations.

• **Blocks**—Other than politics—and union jobs—the biggest road blocks were: (1) evaluating the property and assets of the two unions; and (2) deciding the status of the insurance programs after consolidation.

Each brotherhood claims property and assets estimated at $3-million. Each wanted to be sure the other threw the full amount into the pot.

The talks on insurance were more technical. The B.L.E. insurance department says its fund comes to about $18-million. The union's 80,000 members have equities in it which depend on how long they have been covered. The B.L.F.E. claims a fund of about $32-million. Together, the two unions have about $125-million in outstanding policies.

• **Proposals**—After more than a year of dickering—with insurance experts sitting in—committeemen hit on an acceptable plan to merge insurance companies. But to be on the safe side, they drew up an alternative arrangement that would let the two companies go on as separate enterprises.

The merger won't affect contracts held by the two unions with all the major railroads.

• **Conventions**—If the joint membership approves the merger, each brotherhood will hold a special convention. Delegates will ratify the plan and name 100 delegates to a constitutional convention. This will set up a single new union—the Brotherhood of Locomotive Engineers & Firemen. And it will choose the union's first president. Percy Shield, first assistant Grand Chief Engineer of the B.L.E., now looks like the choice for the post.

Officers other than the presidents would stay on the job until the new union's first election—not less than one year nor more than three years after the constitutional convention.

Presidents of the two brotherhoods probably would be retired. They are Dave Robertson, head of B.L.F.E. for 27 years, and Alvanley Johnston, president of the B.L.E. for 24 years.

LABOR BRIEFS

Cement plants in the Lehigh Valley have upped pay 7¢ to 9¢ an hour for A.F.L. workers. That's a 6½% fourth-round increase.

•

Other wage hikes: Hickok Mfg. Co. gave 4¢ an hour to A.F.L. employees; Eastern Air Lines, an average 9¢ raise to I.A.M. ground employees; Constructors Assn. of Western Pennsylvania, 3% (or 5¢ to 7½¢) to A.F.L. operating engineers and carpenters.

•

"Overtime on overtime" claims of 1,159 San Francisco dock workers were turned down last week by a California federal district court. That decision, if upheld by higher courts, may set a precedent for similar suits involving millions of dollars (BW—Oct.16'48,p108).

•

C.I.O. steelworkers want master contracts and uniform termination dates for 33 plants of American Can, 23 of Continental Can. The union also wants more pay, social insurance, pensions.

•

Plastering work has, "at most, only a remote effect on commerce." So NLRB refused to take jurisdiction in a case involving Walter J. Mentzer, a Pittsburgh contractor, with a $33,000-a-year plastering business.

•

A showdown is near in the jurisdictional fight between C.I.O.'s Farm Equipment Workers and United Auto Workers. The leftist F.E.W. refuses to go into U.A.W., as ordered by C.I.O. Instead, the F.E.W. convention condemned U.A.W. "raiding," and C.I.O. "dictatorial" tactics. Now Philip Murray threatens to take "proper action" unless F.E.W. complies.

•

What does seniority mean when layoffs come? At the Goodyear plant in Akron—which has plant-wide seniority—it took 1,323 job transfers to lay off 255 employees. Reason: Men facing layoffs in one department can "bump" those with less seniority in other departments.

•

U.A.W. (C.I.O.) piled up a 4-to-1 victory over U.A.W. (A.F.L.) in auto workers' jurisdictional fight for new Chevrolet parts plant in Cleveland (BW—Feb. 26'49,p120).

The Pictures—Acme—21; © Fabian Bachrach—24, 90; Arnold Eagle—39 (bot.), 40 (top, cen.), 42; McGraw-Hill World News—113 (left), 116; Wide World—46, 76; Dick Wolters—96, 97, 98, 99, 100.

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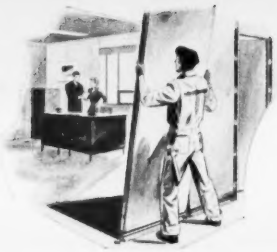

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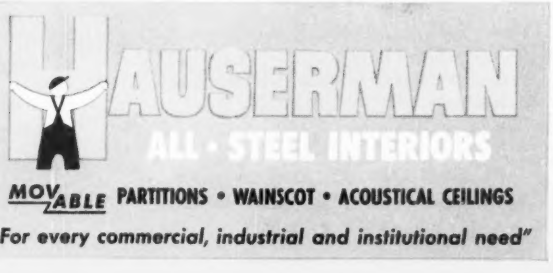

INTERNATIONAL OUTLOOK

Behind talk of devaluing the British pound is the fear of a slump in the U. S.

Lower U. S. prices are making it harder and harder for Britain to sell here.

And the British fear more and more that the U. S. will push exports to take up any domestic slack. If so, Britain will be in a bad competitive spot. While U. S. prices are going down, British prices are going up.

If the pound is devalued, of course, Britain's buying problem in hard currency areas—Belgium and Switzerland, as well as Canada and the U. S.—will be tougher. But this could be an argument to devalue sooner rather than later—while ECA dollars are still available to help out.

•

The success of Britain's export drive in the U. S. and Canada this year will influence devaluation one way or another.

The British government now plans to help finance a large-scale advertising and marketing campaign here.

Through the government Export Credit Guarantee Fund, British exporters will be insured against loss from promotional expenses not covered by sales. And before the government are several private projects for the marketing of British branded goods through U. S. distributors.

In Canada, the British government will finance British technical missions to keep an eye open for large utility contracts (page 116).

•

Czechoslovakia is offering to pay for nationalized U. S. investments—if the U. S. will let the Czechs buy machinery and raw materials here.

The Czechs say they are anxious to settle up with U. S. owners. But they don't have the gold or dollars to do it.

What the Czechs want is a deal whereby they can hike their exports to the U. S. and use the proceeds to pay off the debt over a period of time. Of course, they say, they will first need permission to buy machinery and raw materials in the U. S. in order to create their dollar-earning exports.

Czech officials and the State Dept. are huddling over the matter now. The book value of the nationalized U. S. investments in Czechoslovakia is $130-million. Washington doesn't think anything near this will be agreed on. But some sort of deal seems to be in the cards.

•

U. S. curbs on exports to Iron Curtain countries now bind western Germany, too.

Occupation officials in Bizonia have stopped shipment of chemicals, electrical appliances, and machinery to Poland. The ban has upset a $28-million Bizonia-Polish trade pact.

The Poles offered $12-million worth of food and $2-million in textiles and industrial goods for German manufactures. But Gen. Clay turned thumbs down. Trade agreements of the same type have been O. K. before.

And Britain has tightened its export restrictions to the Soviet bloc. New bans have just been put on several types of lathes, grinding and forging machines, industrial chemicals, nonferrous metals, some semifinished goods.

•

Mexico will get U. S. funds to develop its oil industry. The only question seems to be how much.

The State Dept. thinks Mexico should get only a nominal amount—say

$10-million. It would go for transportation and refinery building. Drilling and exploration, State feels, should be left strictly to private capital.

The House Interstate & Foreign Commerce Committee thinks Mexico ought to get a lot more. And the committee doesn't want the money to have any strings on its use.

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The Mexican government is asking for $100-million. It would like to borrow that sum from the Export-Import Bank.

Sen. Antonio Bermudez, head of Mexico's state oil corporation, Pemex, has put his government's plans up in Washington. Among other things, they call for a network of pipelines to get oil to farm and industrial centers. There would be a tie-in with U. S. pipelines, too.

Bermudez is willing to leave drilling and exploration to private capital. The agreement between Pemex and Mexican-American Independent Co. (backed by Edwin Pauley and nine independent U. S. oil operators) seems to take care of that angle.

The Pauley group has a 25-year contract with Pemex to drill in three areas at the base of the Yucatan peninsula. Actual drilling is limited to 12 years. But Mexican-American will get 15% of the profits from the sales over the 25-year stretch.

•

Recession in France is gathering speed.

Retail prices dropped another 4.1% in March. Wholesale prices slumped another 3.1%. The industrial price index was off 6%.

The break in farm prices (BW-Mar.19'49,p121), which started the recession, has spurred the French government to action. It has drafted a 50-billion franc (about $125-million) farm export program for the coming year.

The target: wines, 18-billion francs; fruits and vegetables, 16-billion; dairy products, 7-billion; meat and fish, 4.5-billion.

This program may get off to a bad start. France is in the midst of one of the worst droughts in years. Reservoirs are drawn to 10% of capacity.

•

Britain may take over our oil markets in Argentina. It would mean the loss of a $100-million business a year to U. S. companies.

The Argentines are plugging a meat-for-oil barter deal at the Anglo-Argentine talks now going on in Buenos Aires. They want the British to send them all the oil they need—about 5-million tons a year. Ordinarily they buy 75% from the U. S.

ECA might veto such a deal, though. Britain got $6.5-million from ECA to buy oil in Latin America. So ECA wouldn't want to be in the position of financing British oil exports to Argentina.

•

Here's a little lesson in the economics of socialism.

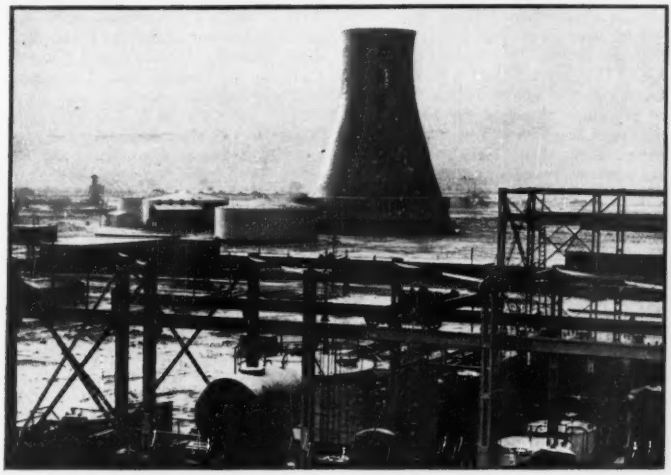
Net personal savings in Britain (including insurance premiums, etc.) fell £39-million in the last year.

Conclusion: Voluntary savings got squeezed under the weight of taxes.

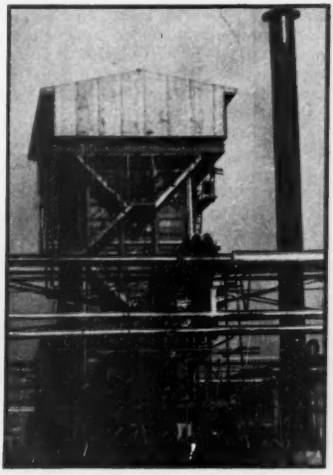
But the British government turns the whole proposition around. In effect, it is saying to the taxpayer: "Since your savings are going down, you must be blowing the money in—maybe foolishly. In that case, you can afford to pay more taxes."

At any rate, that's how the government is alibiing its new budget to the public. The budget will whack 40% out of national income for taxes.

BUSINESS ABROAD



NEW PLANTS: Shell's petrochemical plant, one of four British projects, will go to work next summer. Nearby refinery will eventually supply petroleum gases



NEW PROCESSES: Catarole cracking makes possible close control of end products

Britain Turns to Oil for Chemicals

Coal's drawbacks as a basic raw material spur four petrochemical projects. They may save a $40-million import bill.

LONDON—Britain's chemical industry is in the throes of a revolution. Oil is replacing coal as its basic raw material.

One new company and three well-established giants already have projects under way to speed the revolution. Others seem ready to join in. All this is good news for the British government: Home production of organic intermediates for the chemical industry may save Britain $40-million a year in imports.

• **Coal's Drawbacks**—Up to now, Britain's chemical industry has relied on coal-cracking and molasses-fermentation for most of its raw material. Both these processes have serious drawbacks. Coal tar—which when cracked produces such organic chemicals as benzine, toluene, naphthalene, etc.—is in very short supply. At the same time, demand is mounting steadily for those types of organic chemicals that can't be made cheaply from coal tar—ethylene, propylene, butylene. These have to be imported in forms like ethyl alcohol. Last year Britain's bill for imported ethyl alcohol alone was $6-million.

• **Oil Is Solution**—Oil is the answer to both these problems. By cracking petroleum molecules, Britain's chemical producers can get all the organic intermediates they need. And the day isn't far off when they can do the whole job at home; British refineries should be able to supply all the basic petroleum gases.

These gases are a scarce item now, so there will have to be crude oil imports to keep the initial petrochemical projects going. But Britain's oil industry is in the midst of a $500-million expansion program. Oil men are out to boost refinery capacity from the 1.5-million tons a year they had in 1945 to 20-million tons in 1952. This program will mean plenty of raw material for the new petrochemical industries.

• **First and Smallest**—The first petrochemical project to get into production is also the smallest. Petrochemicals, Ltd., started its first cracking plant in February at Partington, near Manchester. At first, the company plans to process 50,000 lb. of crude oil a year.

Petrochemicals, Ltd., is tied in through a partial common management with Manchester Oil Refinery, Ltd. But the company stoutly proclaims its independence in all phases of operation. Not even raw materials are coming from the nearby Manchester concern. Crude oil for the company will be imported.

The Petrochemicals, Ltd., plant cost $18-million. It was completely financed by the government-sponsored Finance Corp. for Industry, which also put up the money for the huge Steel Co. of Wales (BW—Feb.12'49,p104) and other big expansion projects. Petrochemicals' plant operations will increase the value of imported raw materials $12-million a year, leaving a profit of about $4-million.

Petrochemicals thinks it has added a lot of new refinements to the science of cracking the petroleum molecule. Its method, known as the Catarole process, was invented before the war by Chaim Weizmann, now President of Israel. By blending types of petroleum and by varying operating conditions, the Catarole process makes it possible to regulate the proportions of liquid, solid, and gaseous end products.

• **Sales Wrinkle**—Petrochemicals has also added a new twist in the selling field. It encourages partnership arrangements with manufacturers who need chemical raw materials. The partnership results in a jointly owned plant where Petrochemicals' products get special processing to meet the needs of the partner. Two such companies have been formed already: one with Lewis Berger & Sons, Ltd., paintmaker; another with Lankro Chemicals, Ltd., chemical manufacturer.

• **Shell's Plant**—This next summer Britain's second petroleum-chemical project, Shell Petroleum Co.'s plant at Stanlow, Cheshire, will go into production. Initial output should run about 24,000

tons a year; main products will be acetone, methylethylketone, butyl alcohols, and others.

Shell's petrochemical plant will eventually get petroleum gases from Shell's new refinery, now under construction nearby (BW–Mar.29'47,p102). Until then the new plant will import gasoil (a type of kerosene) from Venezuela or the Middle East.

Shell has other petrochemical plans. It will boost output of detergents at an existing Stanlow plant from 25,000 tons to 70,000 tons a year. Production of insecticides and fungicides at the company's plant in Shellhaven, Essex, will be pushed up this year.

• **Imperial Is Third**—By the middle of 1950, Britain's third petrochemical project should be in production. This project, including a new cracking plant, is being built by Imperial Chemical Industries, Ltd., at Wilton, Yorkshire (BW–Jul.3'48,p79).

Petrochemicals make up about $17-million of I.C.I.'s current $68-million expansion program. The Wilton plant will turn out ethylene, propylene, butylene, and other various hydrocarbons for conversion into more complex products.

Much of this conversion will be done at I.C.I.'s giant Billingham works, which lie just across the River Tees from Wilton. The two plants are linked together by a 1,750-ft. tunnel under the river; the tunnel houses 10 mi. of pipeline.

• **And the Fourth**—Britain's fourth petrochemical project is a joint venture by the Anglo-Iranian Oil Co., Ltd., and Distillers Co., Ltd. These two companies have each put up $10-million to form British Petroleum Chemicals, Ltd. They have picked a plant site at Grangemouth on the Firth of Clyde in Scotland. Stone & Webster Engineering Corp., New York, will do the design work. But site clearing has just started; initial production is at least two years off. The companies haven't even set output targets yet.

The plant will go up beside a refinery of Scottish Oils, Ltd., a subsidiary of Anglo-Iranian. It will draw all its raw materials from the refinery, which will be expanded.

Distillers Co. already has two wholly owned subsidiaries in the chemical industry: British Industrial Solvents, and British Resin Products. These companies will draw on the new British Petroleum Chemicals plans for raw materials. But most of the output of the new plant will go to outside companies.

• **Possible Others**—Two other companies seem ready to dive into the petrochemical field: Anglo-American Oil Co., Ltd., which is just completing an $80-million expansion of its refinery at Fawley, near Southampton; and British Celanese, Ltd.

BUSINESS ABROAD BRIEFS

RCA will prepare a project report on setting up a state-owned radio and radar-equipment plant in India. Britain's Marconi Wireless and France's Compagnie General de Telegraphie will also submit reports.

•

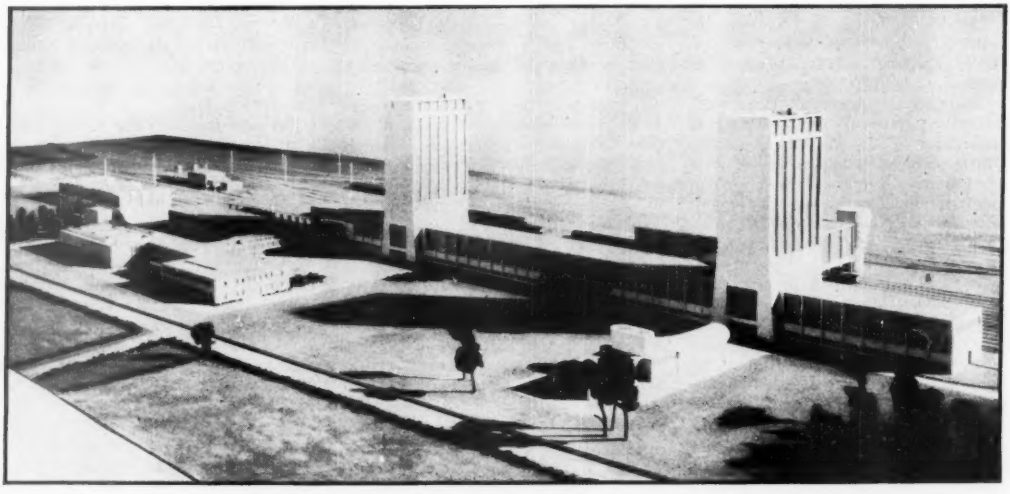
Australia will manufacture more heat-control devices of American design. A new $800,000 company—Wilcolator (Australia), Ltd.—has taken over another company that was under license from New Jersey's Wilcolator Co. The new company is expanding production of the U. S. company's line.

•

Uranium rush in the colonies is being encouraged by the British Ministry of Supply. It will guarantee a fixed minimum price for uranium oxide for the next 10 years ($2.75 a lb.). The ministry will provide capital for development, too.

•

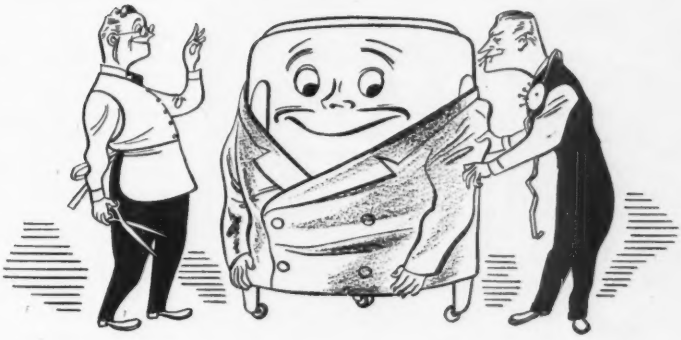
West German Industry will be on display at Rockefeller Center, N. Y., April 9 to 24. Sponsored by the allied military governments, the show will be organized under 25 industrial headings. Displays will cover machinery, metal products, jewelry, sport items, scientific instruments, electrical products, chemicals, textiles, and leather goods.



British Coal Board Builds the Colliery of the Future

This architect's idea of what a colliery should look like is becoming a reality at Rothes, North of Edinburgh, Scotland. The British National Coal Board is building it as part of its all-out drive to show that nationalization has improved the miners' lot. The two tall structures are the hoisting-shaft towers; between them is the coal-preparation plant. The washing and loading plant is at rear, right, the power house at rear, left. The low buildings in the left foreground house offices, mine canteen, and the pithead bath. The bath is a big item in the current improvement drive; the coal board wants to install one at every mine. The first miners got baths at the mines in 1926; there are still some 326,000 workers who don't have them. The coal board figures at least 500 more baths are needed, and according to its estimates the cost for each colliery will be about $500,000.

Tailor a Coat For a Washer?



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Canada Makes Its Own

Shift from farm to industry takes on new spurt. For 1949, capital outlay is put at $3.3-billion, with about $500-million going into manufacture. Dominion seeks U. S. help in building up plant.

This article is the second in a series of three on Canada's long-view economic picture. The first one (BW—Apr.2'49, p105) sized up the general outlook. This one goes into manufacturing trends. The third one will show what recent developments in minerals will contribute to Canada's growth as an industrial power.

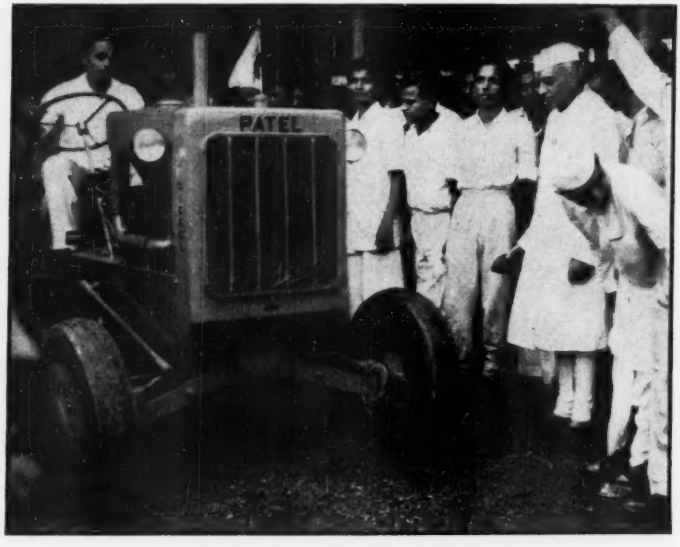
MONTREAL—"Made in Canada" is a slogan that rings sweetly in the ears of our neighbors to the north. And the manufacturers aren't just hearing bells in their heads. Refrigerators, washers, automobiles, vacuum cleaners, and toasters are coming off Canadian assembly lines.

• **Shift to Industry**—In the past 35 years, the pattern of Canada's economy has changed. In 1914, factories accounted for only 36% of net Canadian production; now they account for 65%. In volume and value crops soared, too; but relatively they dropped from 43% to 20% in the same years. Today Canada is a big industrial power in its own right.

With a new budget designed to free more venture capital (BW—Apr.2'49, p105), Canada is counting on an even greater upsurge in manufacturing volume. Extra money for shareholders means new inducement for expansion. Extra money in individual pockets means more cash to pay for more goods. That's why Canada's taxes will go down.

• **U. S. Plays Part**—What did, and does, this have to do with the U. S. businessman? The answer is: Plenty. The U. S. businessman has accounted for a large part of Canada's manufacturing boom. For when he asked himself how he could best cut in on the Canadian and British Empire markets without bothering with tariffs, the answer was easy: Move over into Canada.

Branch plants around Montreal and throughout the provinces of Quebec and



Christening India's First Tractor

India's Prime Minister Nehru (far right) has broken a "christening" coconut over the first tractor ever made in India. The 30-hp., diesel-powered model shown here is a prototype produced by Pashabai Patel & Co., Ltd., Bombay. Patel's target is to be in production by 1950.

Patel tractors will have imported engines—perhaps from the U. S. The company is an offshoot of Allis-Chalmers Mfg. Co.'s Indian agency. Last year Allis-Chalmers supplied Patel with plow blades for the first heavy-duty plows produced in India.

Patel may not have the Indian tractor field to itself. Marshall Sons & Co., Ltd., Calcutta engineering firm, is thinking of setting up shop. The Orissa provincial government has the same thing in mind.

Ontario are running at full blast for U. S. firms. In 1948, Toronto's Financial Post recently noted, the book value of U. S. investments in Canadian branches is thought to be about $2.7-million. That's just about double what it was in 1926. And with Finance Minister Abbott shooting for a long-range program of more home processing of Canadian raw materials, chances look good that U. S. capital will be welcome for years to come.

• **Utilities Spurt**—Meanwhile Canadian companies are doing a lot of pushing on their own. Utilities in particular are putting on a big spurt this year. They will spend a large part of the over-all $3.3-billion capital outlay estimated for 1949.

The Canadian Pacific Ry. figures on spending $75-million this year (and each of the next four years) on road and service improvement. And the telephone company also has made plans to make large expenditures to keep in step with industrial growth.

Canadian Pacific's program hinges on getting a freight-rate hike to bring its domestic tariffs in line with U. S. rates. The road plans to improve service with diesel-electric freight and switching locomotives, new coaches for home passengers, and a switch to diesel-electric for both passenger and freight trains between Wells River, Vt., and Montreal.

• **Construction**—Heavy investments will be made in building construction and in housing. Housing is tight almost every place where industry has expanded. More than $700-million is expected to go into new homes this year.

You can see signs of office and plant construction in the bigger cities and industrial centers. In downtown Toronto, for instance, several office buildings are going up. Among them is a new home in the financial district for the Bank of Nova Scotia.

• **Manufacture**—Total investment (domestic and foreign) in manufacturing in Canada today is over $6-billion. Canadian manufacturing consists mainly of the hundreds of small enterprises that dot the countryside. In Canada the big home-controlled operations besides the Canadian Pacific are C.P.'s subsidiary, Consolidated Mining & Smelting Co. of Canada; the Massey-Harris Co.; and the Steel Co. of Canada.

American direct investment accounts for slightly over 20% of the total capital in Canadian manufacturing plants. It is confined chiefly to big durable-goods plants that turn out automobiles, washing machines, electrical equipment, and to the oil-processing industry.

Canadian manufacturing plants figure they will spend a little less for expansion this year than in either 1947 or 1948. But they will still spend over half a billion dollars.

• **Chemicals**—Canadian Industries, Ltd., is a prime contributor to the Canadian

economy. This company, owned jointly by du Pont and Imperial Chemical Industries, Ltd., of England, will serve as an indirect dollar-earner with its new expansions.

One of company's new installations is a $1.3-million sulphuric acid plant at Hamilton, Ont. The plant is designed to turn out 250 tons daily. Also at Hamilton, the company has built a new $500,000 insecticide plant. And at Shawinigan Falls, Que., it will open a new $600,000 cellulose-sponge plant next fall.

With these new plants, the company is now centralizing its export operations. It is expected to push its products for foreign—as well as domestic—sale.

• **Pulp and Paper**—Canada's large paper and pulp industry is also expanding—both via new plants and improvements in old ones. Newsprint, especially, has been on an expansion spree. Newsprint capacity for this year is 4.6-million tons, up 189,000 tons over 1948. Total capacity has risen 388,000 tons since the war's end.

R. M. Fowler, president of the Canadian Pulp & Paper Assn., thinks that postwar improvements in methods of production and operation in newsprint have added the equivalent of four new two-machine mills. This increase, he said, comes to nearly half the entire productive capacity of the U. S.

And until advertising linage drops, no one looks for a change in the trend.

At Long Lac, Ont., the Long Lac Pulp & Paper Co. (a subsidiary of Kimberly-Clark Co., Neenah, Wis.), has put in a new unit capable of producing 300 tons a day of sulphate pulp.

For all their growth, the paper and pulp industries are stressing forest conservation, for the vast expansion has started to eat into replantings. So there may be a letdown in lumbering as fewer trees fall, more new ones are planted.

Backstop to Canada's resources are those industries that convert its raw materials into useful merchandise. These include flour-mills, bakeries, canneries and other food processors, and tobacco plants.

• **Boost From Minerals**—In recent years the smelting of nonferrous metal has come along fast, thanks to the development of rich mineral resources. Canada ranks high among producers of nickel, zinc, lead, copper, and other metals. These in turn have prompted activity in aluminum reduction, manufacture of hardware, machinery, communications and scientific equipment.

Steel output has doubled since the start of the war. Plants in Ontario and Nova Scotia produce enough to supply almost two-thirds of Canada's needs. The newly found deposits of iron ore in Labrador eventually will help supply U. S. steel mills; but there presumably is enough ore in Canada to carry a

larger domestic steel industry if demand warrants it.

The mineral wealth uncovered in western Canada should boost chemicals. Large supplies of natural gas and petroleum have been found in Alberta and may extend into Saskatchewan. Salt deposits, coal, and cheap power also promise great industrial growth.

A case in point is the war-built synthetic-rubber plant at Sarnia, Ont., not far from the Imperial Oil Co.'s huge refinery. As refineries expand near the oil fields in the West, they will bring a crop of similar projects.

Canadian industrialists have reason to be cheerful. Plants are going up; more men and women are trekking into the factories, and Canadian goods—industrial and consumer—are rolling.

ECA'S LEDGER

The House and Senate Appropriations Committees are sharpening their scissors for the ECA bill. They figure that commodity prices have dropped a lot since ECA estimated its second-year costs last fall. So they think they can shear $100-million to $200-million from the bill.

• **Foresight**—They probably won't be able to do it, though. Reason: ECA figured on lower prices when it added up its bill last fall. Perhaps over the whole range of products, prices have fallen a bit below ECA estimates. But this may be offset by additions ECA thinks it will have to make to the commodity program.

Agricultural Commodities. Taken as a whole, farm prices today are perhaps 3% to 5% below ECA estimates. Big reason is the drop in the price of fats and oils. This means the agricultural end of the program might be cut back as much as $100-million.

But ECA now thinks that it will have to send more bread-grains to Europe than it had planned—perhaps enough more to offset the price decline. Reason: ECA overestimated Europe's 1948 harvest.

Coal. The price is down a bit more than ECA estimated—perhaps enough to cut $5-million from the solid-fuels program.

Nonferrous Metals. Prices have dropped, but ECA wants to step up its buying. Supplies are easier now. When they were tight and prices high ECA kept its buying at a minimum.

Most other ECA requests will stick. Steel costs are higher now than a year ago, but cost to ECA may be less than earlier estimates if small producers lower quotations further to meet prices of major competitors.

Paying for Bonuses

Advocates of government economy were able to breathe a sigh of relief recently when the House shelved Rep. Rankin's veterans-pension bill. The measure, which its own sponsor estimated would cost $109-billion, was sent back to committee—by a one-vote margin. It certainly was a close call.

The Rankin bill was the first veterans-pension legislation to come before Congress in 28 years. It aimed to provide $90 a month pensions for all veterans of World Wars I and II when they reach 65. Any veteran with 90 days or more service would be eligible, regardless of his need. This payment would be on top of a social-security old-age pension, or a retirement pension to a government employee. Altogether, about 18-million veterans would be entitled to receive pensions in their later life.

Chairman Rankin of the House Veterans Committee said afterwards the bill was dead as far as the 81st Congress is concerned. But that statement does not tell the whole story, for there are other pension bills which may be brought up any time—including a new one of Rankin's, providing slightly smaller pensions. And there is an even likelier chance that a bill to pay a bonus will come along first.

Bills to grant bonuses to World War II veterans were offered in each session of Congress after war was declared. But organized pressure did not become evident until this year. The movement had been delayed, partly because of the generous provisions of the G.I. Bill of Rights and partly because of the full employment and high wages of the postwar period.

Even now, the pressure for a federal bonus is not so strong as it probably will be later. This is true because the real pressure is being applied now to state bonuses. Bonus proposals were adopted in six states last November by popular referendum. Ten states had previously voted bonuses to their World War II veterans.

This year many other state legislatures are being pressed to vote bonuses. One stimulus has been the good credit of states in recent years. Another has been the large number of veterans—more than three times as many as after World War I, and all of voting age.

State legislators, of course, find it just as difficult to vote against a bill demanded by veterans as do congressmen in Washington. However, in some states they have learned this interesting fact: If the proposed bonus is to be financed by special taxes, the bonus loses some of its attractiveness.

The legislators themselves hate to vote for new taxes of any kind. So they think a lot longer and harder before they vote a big expenditure.

The legislators also discover that they get a great deal more moral support from their constituents. If the bonus measure has no tax strings tied to it, the citizens make practically no protest. An addition to the bonded debt—with no provision made to pay off the bonds—seems painless. But if a special tax is involved, a lot of public opposition arises.

The opposition even comes from those who would like to do something for the veterans. That group also includes some veterans, who see that they themselves will have to pay a large part of the cost of bonus payments to them.

In New York, for example, the veterans' bonus is being financed by (1) higher taxes on cigarettes, and (2) an extra levy on personal incomes. It has been estimated that the higher cigarette tax alone is costing each cigarette-smoking veteran in New York an extra $5 a year. And some veterans have found out that, as individuals earning above-average incomes, they will pay more in extra personal income taxes than they received as a bonus.

All voters become more conscious of government expense when they realize the cost in the form of taxes. That is a good reason why the enormous cost of veterans' pensions or bonuses should be linked to taxes that will liquidate the expense. The knowledge that taxes will have to be imposed should be sufficient to deter congressmen from going berserk in voting more veteran payments.

Economics Primer

Economics is generally considered a dull subject for the average person. Making an explanation of economics interesting and entertaining is therefore a real chore.

Banker H. Christian Sonne recently undertook the task. He attempted to explain our economic system to a group of high school students in a 50-minute talk. Evidently his effort was successful. His remarks attracted much interest from educators, parents, students, and businessmen. Sonne was encouraged to adapt and expand his talk into book form.

The result is "Enterprise Island," an easy-to-read book of only 128 pages. The island Sonne describes is an imaginary, primitive one. There he traces in story form the origin and growth of an economic system that closely parallels our own. He uses practical illustrations and simple language to tell how the Enterprise people faced and solved the problem of achieving a balanced economy and prosperity. Such abstract terms as barter, money exchange, interest, credit loans, mass production, inflation, panic, and patents are made real.

As the book ends, the reader is brought right up to the problems America faces today.

Businessmen who read the book are almost certain to enjoy it. But the book's value will be lost if it is read only by those whose everyday life is business. The reader list should be filled by those who have not been able to understand how and why business functions as it does.

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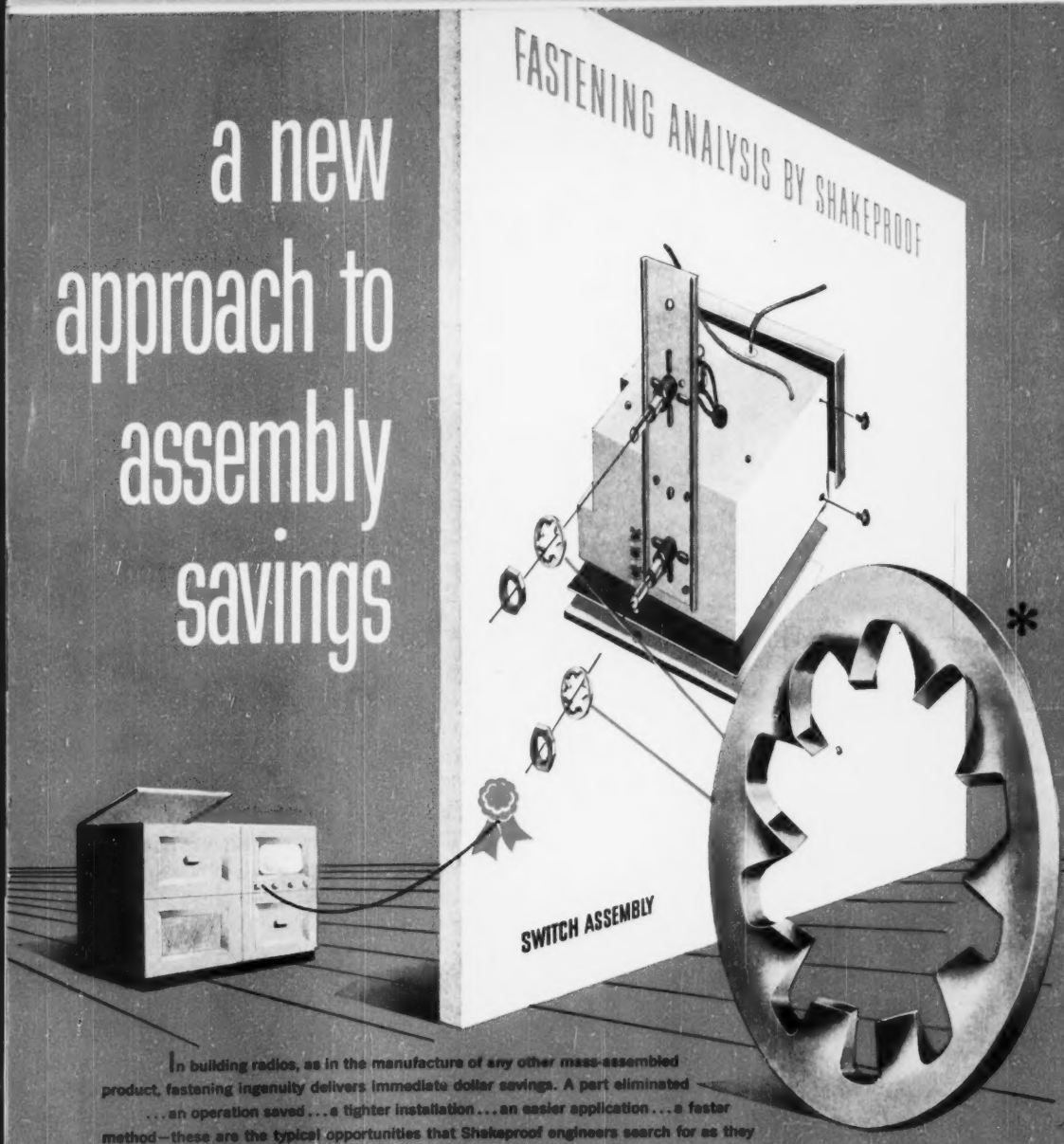

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